

Barcode - 5990010901583
Title - Journal Of The Asiatic Society 1966 Vol VIII
Subject - Literature
Author - William Jones
Language - english
Pages - 342
Publication Year - 1966
Creator - Fast DLI Downloader
<https://github.com/cancerian0684/dli-downloader>
Barcode EAN.UCC-13



Fourth Series

JOURNAL OF THE ASIATIC SOCIETY

50349



891.05

J.A.S.B.

Vol. VIII, 1966, No. 1

Pages 1 to 74 with 7 plates

ASIATIC SOCIETY
1 Park Street, Calcutta 16

CONTENTS

| | Page |
|---|------|
| 1. <i>Some Aspects of the Indianization of Ancient Malaya and the Role of the Brāhmaṇas in It</i> | 1 |
| By PROFESSOR H. B. SARKAR | |
| 2. <i>Caste Inter-relationship of the Bārujībīs in a West Dinajpur Village</i> | 19 |
| By SHRI TARASISH MUKHOPADHYAY | |
| 3. <i>Terracotta Seals and Sealings from Rājādīdāngā Excavations during 1961-62</i> | 29 |
| By DR. S. R. DĀS | |
| 4. <i>Doctrine of Sarvāstivāda in the Light of Modern Philosophy and Psychology</i> | 51 |
| By DR. ARUNA HALDAR | |
| 5. <i>Reviews of Books:</i> | |
| (a) <i>Totemism in India</i> | 65 |
| By DR. B. K. CHATTERJEE | |
| (b) <i>The Dust-storm and the Hanging Mist: A Study of Birsa Munda and His Movement in Chhotanagpur (1874-1901)</i> | 66 |
| By PROFESSOR NIRMAL KUMAR BOSE | |
| (c) <i>The Iron Age in India</i> | 66 |
| By PROFESSOR NIRMAL KUMAR BOSE | |
| (d) <i>The Life of Mir Jumla</i> | 67 |
| By DR. SUKUMAR RAY | |
| (e) <i>Shah Alam II and the East India Company</i> | 68 |
| By DR. J. N. SARKAR | |
| (f) <i>Raja Man Singh of Amber</i> | 69 |
| By DR. J. N. SARKAR | |
| (g) <i>Chalcolithic Chandoli</i> | 71 |
| By SHRI D. SEN | |
| (h) <i>A Bibliography of Sanskrit Works on Astronomy and Mathematics</i> | 73 |
| By PROFESSOR CHINTAHARAN CHAKRAVARTI | |
| (i) <i>Studies in the Upapurāṇas</i> | 74 |
| By PROFESSOR CHINTAHARAN CHAKRAVARTI | |

Acc. No.

Date

50349

17 6 77

CONTENTS

| | Page |
|--|------|
| 1. <i>The Prabhās-Pāṭan Copperplate</i> By SHRI S. K. BHOWMIK | 75 |
| 2. <i>Note on S. K. Bhowmik's Views on the Prabhās-Pāṭan Copperplate</i> By DR. D. C. SIRCAR | 79 |
| 3. <i>The Migration of Sanskrit Grammar, Lexicography, Prosody and Rhetoric to Indonesia</i> By PROFESSOR H. B. SARKAR | 81 |
| 4. <i>Some References to Animal Hunting in Ancient Sanskrit Literature</i> By DR. APARNA CHATTOPADHYAY | 101 |
| 5. <i>Some Post-Muslim Temples and Sculptures of Rājasthān</i> By SHRI ADRIS BANERJI | 105 |
| 6. <i>Reflections of Ancient Indian Society in the Kathāsarit-sāgara</i> By DR. APARNA CHATTOPADHYAY | 111 |
| 7. <i>Contributions to Our Knowledge of Indian Freshwater Plants. 5. On the Morphology, Reproduction and Autecology of Pistia stratiotes Linn.</i> By DR. EVA MITRA | 115 |

Fourth Series

JOURNAL OF THE ASIATIC SOCIETY



Vol. VIII, 1966, No. 2

Pages 75 to 135 with 12 plates



ASIATIC SOCIETY
1 Park Street, Calcutta 16

CONTENTS

| | Page |
|---|------|
| 1. <i>The Authorship of Sūrjanacaritam</i> 137 By Dr. R. C. MAJUMDAR | |
| 2. <i>The Old Temple at Lamba and Kāmeśvara Temple at Auwa</i> 141 By SRI M. A. DHAKY | |
| 3. <i>Clay Figurines of the Muslim Period</i> 149 By SRI ADRIS BANERJI | |
| 4. <i>The Ledger of the Merchant Hovhannes Joughayetsi</i> .. 153 By SRI LEVON KHACHIKIAN | |
| 5. <i>Reviews of Books</i> | |
| (a) <i>A Bibliography of Indology. Vol. III. Bengali Language and Literature, Pt. I</i> 187 By PROFESSOR CHINTAHARAN CHAKRAVARTI | |
| (b) <i>The Changeable and the Unchangeable in Religion</i> 187 By SRI HIRANMAY BANERJEE | |
| (c) <i>Sāṃkhyadarśana</i> 189 By SRI HIRANMAY BANERJEE | |

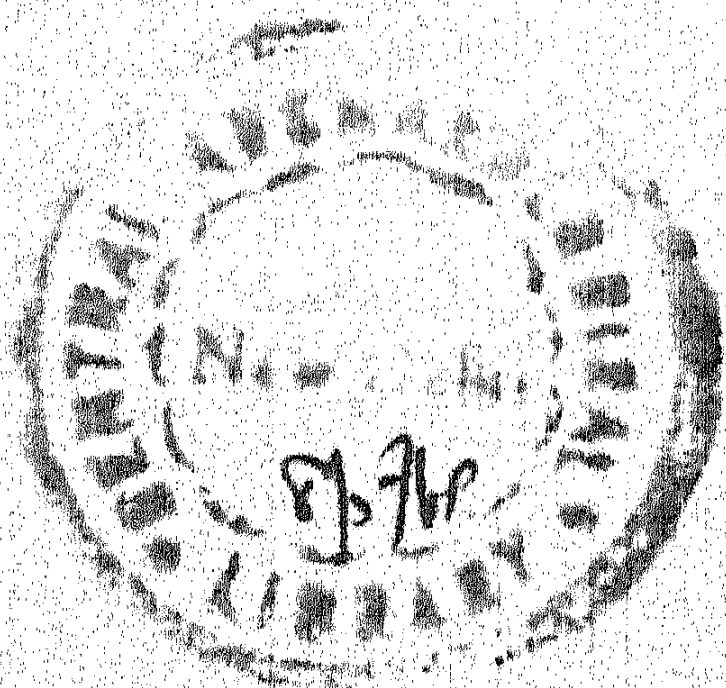
Fourth Series

JOURNAL OF THE ASIATIC SOCIETY



Vol. VIII, 1966, No. 3

Pages 137 to 190 with 11 plates



ASIATIC SOCIETY

1 Park Street, Calcutta 16

CONTENTS

| | <i>Page</i> |
|---|-------------|
| 1. <i>Contribution towards a Critical Edition of the Dhātu-pāṭha</i> | 191 |
| By SRI S. SENGUPTA | |
| 2. <i>The Problem of Bengali Verb and Syntax</i> .. | 219 |
| By SRI ANIMESH K. PAL | |
| 3. <i>Religious Condition of India at the Beginning of the Nineteenth Century</i> | 239 |
| By DR. BIMANBEHARI MAJUMDAR | |
| 4. <i>Description of Two New Spiders of the Genus Xysticus (Family : Thomisidae) from India</i> | 249 |
| By DR. B. K. TIKADER | |
| 5. <i>Was Chārudatta the Hero of the Drama Mṛcchakaṭika a Brāhmin?</i> | 253 |
| By DR. DILEEP KUMAR KANJILAL | |
| 6. <i>Nāmasaṅgīti—a Rare Buddhist Icon</i> | 257 |
| By SRI DIPAKCHANDRA BHATTACHARYA | |
| 7. <i>The Composite Image of Vāsudeva and Lakṣmī</i> .. | 261 |
| By SRI DIPAKCHANDRA BHATTACHARYA | |
| 8. <i>Evidences of Buddhist Painting in E. India in the 15th C.</i> | 267 |
| By DR. PRATAPADITYA PAL | |
| 9. <i>Bāṅpur Copperplate Inscription of Somavaṁśī Indraratha</i> | 271 |
| By PROFESSOR KUNJA BEHARI TRIPATHY | |
| 10. <i>Reviews of Books</i> | |
| (a) <i>The Audumbaras</i> | 277 |
| By DR. R. C. MAJUMDAR | |
| (b) <i>Samājsaṁskāraka Raghunandana</i> | 277 |
| By SRI N. K. BOSE | |
| 11. <i>Tibetan Bibliography (Subject Index) Supp.</i> .. | 169 |
| By SRI SIBADAS CHAUDHURI | |

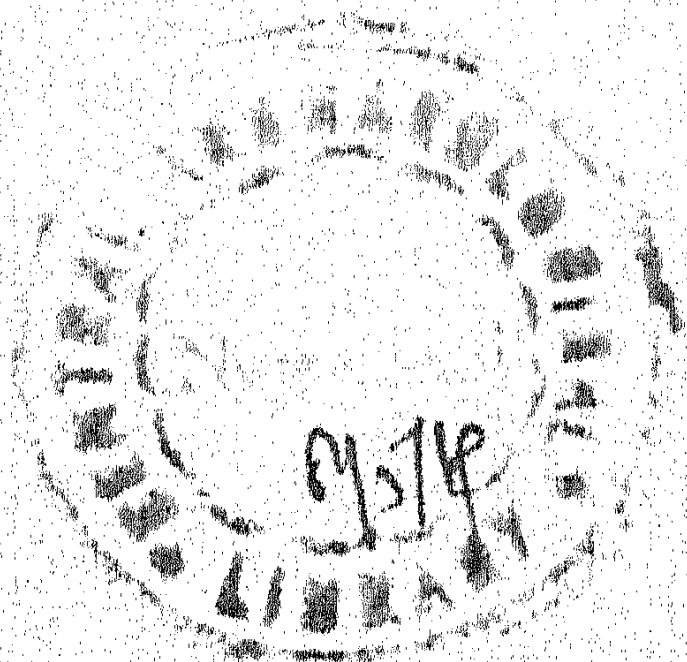
Fourth Series

JOURNAL OF THE ASIATIC SOCIETY



Vol. VIII, 1966, No. 4

Pages 191 to 278 with 4 plates



ASIATIC SOCIETY
1 Park Street, Calcutta 16

SOME ASPECTS OF THE INDIANIZATION OF ANCIENT MALAYA
AND THE ROLE OF THE BRĀHMANAS IN IT

By Professor HIMANSU BHUSAN SARKAR

(Received June 13, 1966)

I

The story of the social, cultural and religious life of ancient Malaya, which will be mainly discussed here, has to be reconstructed from meagre data furnished by archaeological explorations, iconographic and ethnological data, inscriptions and references in the literature of the East and the West. The evidence provided by literature has to be cautiously handled as it sometimes refers to kingdoms which defy all attempts at satisfactory identification. The materials found in the Chinese and Arabic records have been handed down to us from different dates and are sometimes based on hearsay. Where inscriptions or other archaeological remains have been discovered in a particular area, the evidence is valuable in so far as that particular area is concerned, but due to uncertain identification of some places mentioned in literature it is often difficult to bring such evidence in line with the ethnological or other data furnished in early Chinese or Arabic sources. Besides, as the extent of Indian influences varied from State to State the social, cultural and religious life of each State has to be studied separately and in the context of this complex background.

The points of Indian colonization in the Malay Peninsula lay on either coast, as literary and archaeological evidence clearly testifies. In the first five centuries of the Christian era, about a dozen or so petty kingdoms pass in our view in the Isthmian part of the Malay Peninsula.¹ Archaeological evidence leaves no room for doubt that there were several Indianized societies dotting the northern parts of the west coast of the Malay Peninsula during the second or third century A.D. If Takua Pa be the same as Ptolemy's Takkola, there was an early Indian settlement in the port area. On account of the location of the Mērbok estuary at the western end of a transpeninsular route to the East, it provided a convenient as well as safe anchorage for Indian shipping in the early centuries of the Christian era. The testimony provided by the ruins of shrines in the valleys of the Mērbok Kēchil and Bujang rivers cannot also possibly have any other implications. By the fifth century A.D., Buddhists had established themselves in this region. Śaivism, however, became predominant between the Mērbok estuary and the Kēdah Peak along the Bujang river in course of the next three centuries. Indeed, Wales excavated ten Śaivite shrines from the neighbourhood of the middle course of the Bujang and referred them to c. A.D. 550–750. Two audience-halls and two Mahāyānist temples seem to have been built between c. A.D. 750–900 on the same stretch of the river. If these dates be correct,² the remains of the shrines could probably indicate the ups and downs in the fortunes of Buddhism and Śaivism in the Mērbok and Bujang valleys. The following period was marked by the establishment of Hindu shrines on the left bank of the river. Colonization

¹ For a description of these States, *vide* Wheatley, *The Golden Khersonese*, 1961, pp. 282 ff.

² These dates have been questioned by Lamb in *Malaya in History* (1958), Vol. IV, pp. 2 ff.

of the Mērbok led to further exploration and settlement on the banks of its southern tributaries.¹ Some of these Indian settlements seem to have persisted till Islam burst upon the scene.

From a chronological point of view, another important Indian settlement on the west coast was Kālagam. The Tamil poem *Paṭṭinappālai*,² dating from the end or beginning of the third century A.D., refers to 'goods from Kālagam'. This Kālagam is believed by many scholars to be the same as Kaḍāram. Even if this identification be disputed,³ there is no doubt that this Kālagam of Malaysia had close commercial relations with Puhar or Kaveripaṭṭinam. It appears from later Coḷa inscriptions that Kaḍāram or Kiḍāram of the Tamil works is to be understood in the sense of Kaṭāha-nagara of Sanskrit literature.⁴ In the *Kathāsaritsāgara*, Kaṭāha has been described as 'the city of all felicities', where life was gay and enjoyable.

At the port of Kēdah (Chieh-ch'a of Chinese accounts), pilgrims waited for the proper rhythm of monsoons to cross the Bay of Bengal. Recorded settlement in southern Kēdah dates from the fifth or sixth century A.D., but in course of time it became the peninsular headquarters of the Śrīvijaya empire and attained a dominant position, but it lost this position in the eleventh century A.D. During its days of glory it had close contact with many parts of India and had a large Indian population, but it partook, for several centuries, a cosmopolitan character with a substantial extent of floating population.

Another kingdom on the west coast was Kalāh, whose swords have been described by Abu Dulaf as 'the true Indian swords', but the question of its location has not been satisfactorily settled.⁵ In many Arabic works it has been described as on the edge of India.⁶

In the eastern coast lay Tan-ma-ling, which corresponds to Tāmbraliṅga of the Grahi inscription, the Mādāmaliṅgam of the Tanjore inscription. It lay in the Caiya district.⁷ The port of Takua Pa on the west coast served as a gateway to Tāmbraliṅga across the transpeninsular way. A name Tamali occurs in the *Mahāniddesa* and S. Levi thought that it was possibly Tambhaling, the birthplace of the learned Buddhapālita. Be that as it may, an undated Sanskrit inscription from this place, probably dating from the sixth century A.D., records an endowment for the common benefit of the Buddhist and Brāhmanical institutions arranging for the worship of Pāramitā and Agastya.⁸

¹ For a succinct account, *vide* Wheatley, *op. cit.*, pp. 273 ff.

² *Vide* K. A. Nilakanta Sastri, *The Coḷas*, Vol. I (1935), pp. 99-100.

³ Different views regarding its identification have been discussed by Wheatley, *op. cit.*, pp. 263, 279 ff.

⁴ The references are to be found, for example, in the *Kaumudīmahotsava* (Act V), probably dating from the eighth century A.D., in the *Vāmana* and *Garuda Purāṇas*, the Prākṛta work *Samaraicakaha* of Haribhadra Suri (c. A.D. 750). Views about its identification have been discussed by Wheatley, *op. cit.*, pp. 42 ff., 278 ff., with literature cited therein.

⁵ Kalah, Ko-lo or Kala has been sought to be identified with Kēdah, Krah, a tract of the Mergui district, etc. It is obviously the Kalah(bar) of Arab geographers. Different views regarding its identification have been discussed by Wheatley, *op. cit.*, pp. 222 ff. See s.v. Kalah(bar) in index.

⁶ e.g. Abu Dulaf, *Thousand and One Nights (Sindhbad's Fourth Voyage)*, Yakut (*Mu'jam al-buldan* and *Murasid al-ittila*). It had so large an Indian population that Mukhtasar al-'aja'ib was constrained to say: 'The island of Kalah is a large island inhabited by Indians', while Bakuwi describes it as a 'town of India'.

⁷ About its location, see Braddell in *JMBRAS*, XXIII, pt. 3 (1950), pp. 1-35; Wheatley, *op. cit.*, p. 67. For earlier views, see Takakusu, *A Record of the Buddhist Religion*, pp. xliii-xlv; *T'oung Pao*, 2nd series, Vol. II (1901), p. 130; *BEFEO*, IV (1904), p. 328, fn. 6; *JRAS* (1905), p. 408.

⁸ Coedes, *Recueil les Inscriptions du Siam*, II, p. 51, No. XXVIII.

The kingdom of Langkasuka lay near modern Patani on the eastern coast. According to Chinese annals, it came into existence in the second century A.D.¹ A kingdom lying at the narrowest sector in North Malaya constituted the kingdom of P'an-P'an.² A revolt in Funan was organized by a Brāhmaṇa from P'an-P'an in the late fourth century A.D. Another important State on the east coast, lying to the south of P'an-P'an, was the kingdom of Tun-Sun,³ which was a Malay dependency of Funan in the third century A.D. It was already an important trade centre in the sixth century A.D., because 'To its market people came from east and west, and it is visited daily by more than 10,000 men. All kinds of valuable goods are found there'. The Chinese annals of the seventh century refer to the Indianized State of Ch'ih-t'u which probably lay between modern Patani and Kēlantān.⁴ If this location be correct, it would appear that this part of the Malay Peninsula was highly Indianized. We learn from Chinese annals⁵ that the king's name was Li-fu-to-se. We are told that 'his Buddhist father abdicated so that he could preach the Word, whereupon Li-fu-to-se reigned in his stead. He resides in the city of Sang-Chih . . . On each gate are paintings of spirits in flight, Bodhisattvas and other immortals . . . To the rear of the king's coach there is a wooden shrine inlaid with gold, silver and fine perfumed woods'. Another Indianized State in this region was the kingdom of Tan-Tan which perhaps lay in the Trēngganu district in the eastern coast of the Malay Peninsula.

Lajonquiere's Archaeological Report,⁶ supplemented by the investigations of Wales,⁷ throws interesting light on many of these States. The Report of Lajonquiere refers to the settlements at Chumpon, Caiya, the valley of the river Bandon, Nakhon Sri Dhammarat (Ligor), Yala and Selensing. It states that the most important of these was Nakhon Sri Dhammarat, essentially a Buddhist colony, which probably built the great stūpa of Nakhon Sri Dhammarat and part of the fifty temples which surrounded it. The mass of terracotta votive tablets in the caves inhabited by the Buddhists, of which a few specimens still exist, also belonged to this colony. The inscriptions are unfortunately very rare and only three have been discovered, belonging to the fourth or fifth century A.D. The Ligor inscription of A.D. 775, however, underlines the importance of the Mahāyāna, nourished by Śrīvijaya and the Śailendra monarchs. A little to the north lay the Indian settlement of Caiya, which appears to have been Brāhmaṇical at first, but later on Buddhist.⁸

The comparative lateness of Indian colonization in the southern part of the Malay Peninsula probably lies in the fact that the Strait of Malacca, down to late historical times, was infested with pirates and could hardly

¹ For text and translation of Chinese and Malay excerpts bearing on this kingdom and other references in Arabic, Javanese and Indian records, together with earlier discussion on the subject, *vide* Wheatley, *op. cit.*, pp. 252 ff., and index under s.v. Langashuka, Lang-ya-hsu(hsiu), Ling-ya-ssu(-chia), Lung-ya-hsi-chiao.

² Regarding the location of this place, *vide* Groeneveldt, *Miscellaneous Papers relating to Indo-China*, Vol. I, p. 241, note under +; Pelliot in *BEFEO*, Vol. IV (1904), p. 299; Ferrand in *JA*, onzième série, Vol. XII (1918), p. 141; Luce in *Journ. Burmah Res. Soc.*, Vol. XIV (1925), pp. 169 ff; Briggs, *The Far Eastern Quarterly* (now known as *The Journal of Asian Studies*), Vol. IX (1950), pp. 261 ff; Wheatley, *op. cit.*, p. 50.

³ For text and translation of Chinese annals bearing on this kingdom as also for a discussion regarding its location and the views of previous scholars, *vide* Wheatley, *op. cit.*, p. 20.

⁴ *Vide* Wheatley, *op. cit.*, p. 36.

⁵ *Ibid.*, pp. 27 ff.

⁶ *BCAI* (1909), pp. 184-185.

⁷ *IAL*, IX, No. 1 (1935), pp. 1-31.

⁸ Lajonquiere, *op. cit.*

be expected to invite sailing ships, except when they were in a sufficiently large number. Even then, permanent settlement in this region would have made it open to standing depredations from organized piracy. The process of Hinduization of Borneo/Kalimantan, after Mūlavarman, might have been cut short for the same reason. In later historical times, some States sprang up in the southern part of the Malay Peninsula, but their early history is virtually a closed chapter. In the far south lay Pahang which, according to the *Nāgarakṛtāgama* (A.D. 1365),¹ was a generic name for the southern half of the Peninsula. In the Chinese annals it has been designated Pa-hoang (or Po-houang). If this be identical with Pahang, as suggested by Schlegel, its history may be pushed back to the fifth century A.D., but its location at that period cannot be exactly determined. In any case, we learn from the *Nan-shi* and the *History of the First Sung Dynasty*² that in A.D. 449 the king of the State of Pahang, named Sari-Pāla-Varma, sent envoys. The State historians Napāti and Sūraṇa were also sent to China on different dates. These facts, specially Indian names and the accomplishments of the State historians, testify to the high standard of civilization in Pahang. This State of Pahang is also supposed to be the same as P'ong-fong, which occurs in the list of fifteen dependencies of San-fo-t'si mentioned by Chau-Ju-Kua.³ Malacca and Johore also figure in the Chinese annals dating respectively from the fifteenth and sixteenth centuries. In the *Hai-yu* (A.D. 1537),⁴ we are told of the people of Malacca that 'they write with Indian letters', but the extent of Indian influences in this and other States of southern Malaya in the pre-Islamic period is difficult to gauge for want of sufficient data. In the *History of the Liang Dynasty* (A.D. 502-556), we come across another State called Kan-da-li (variants: Kan-to-li, Kin-to-li), but it is not certain if it lay in the Malay Peninsula or Sumatra.⁵ Whether it lay in the Malay Peninsula or Sumatra, the court, if not the kingdom, was Hinduized to a large extent, as the names of the kings and officials attest. In the reign of the emperor Hia-Wu (A.D. 454-465), king Che-p'o-lo-na-lien-to (Śrīvaranarendra) of Kandali sent Tchou-Lieou-to (Rudra, the Indian) to the emperor with valuable presents. In 502, its king, K'iu-t'an-sieou-pa-to-lo (Gautama Subhadra), sent an embassy to China, while his son P'i-ye-pa-mo (Priyavarman or Vijayavarman?) also sent an embassy in A.D. 519. It is interesting to note that the letter of 502 not only speaks of Buddhism but also of painting. The country reappears in the *History of the Sung Dynasty* (A.D. 960-1279), but very little is known of its Indian culture during the interim period.

On account of the exhaustive presentation of the literary data bearing on Malaya, supplemented by archaeological and other kinds of evidence, we can now form a tolerably fair estimate regarding the Hinduized States of Malaya and see therein depicted the grand role played by the Indian Brāhmaṇas. As in Indonesia, the society of Malaya was apparently based on the caste system, though all the castes have not been specifically mentioned. There is no doubt, however, that the Brāhmaṇas occupied a prominent place in society, and they have been particularly mentioned in many old records. The nobility and the commoners have also been referred to.

¹ Canto 14, str. 2.

² *T'oung Pao*, serie I, Vol. X (1899), pp. 39 ff. In *BEFEO*, IV, p. 272, Pelliot has questioned the identification.

³ Hirth and Rockhill, *Chau-Ju-Kua*, pp. 60 ff.

⁴ Groeneveldt, *Notes*, p. 126.

⁵ *Ibid.*, pp. 60 ff. Regarding its location, vide also Ferrand, *JA-II*, XIV (1919), pp. 238-241; Gerini, *Researches*, pp. 601-604; Pelliot, *op. cit.*, pp. 401-402; Schlegel, *T'oung Pao*, Vol. II, pp. 122-124; R. C. Majumdar, *Suvarṇadvīpa*, I, pp. 78 ff.

The kings naturally constituted the Kṣatriya caste, but the position of the merchants was also important enough to merit attention in the Chinese annals.

The king's position was very exalted. If the interpretation of archaeological ruins from Kēdah and Province Wellesley in the west coast of Malaya be correct, it would appear that the kings of this region had their palace-halls for audience and also forts for their defence around the fifth century A.D. The Chinese annals, however, provide us with earlier literary data bearing on Langkasuka. It is stated that an exiled relation of the king went to India and there married the eldest daughter of the ruler of that country. When the king of Langga died, this exiled prince was called back by the noblemen to be their king. He died more than twenty years afterwards and was succeeded by his son Pa-ka-da-to (= Bhagadatta).¹ Apart from Indian names of the rulers, it is interesting to note that in his letter addressed to the Chinese emperor in 515, the prince wrote that 'the precious Sanskrit is generally well known in his land. The walls and palaces of his imposing cities are high and lofty as the mountain Gandhamādana'. Although these things seem to refer to China, the high place accorded to the 'precious Sanskrit' and the reference to the Gandhamādana, which implies acquaintance with the Rāmāyaṇa episode of Hanumāna's uprooting the Gandhamādana hill, indicate the extent of Indian cultural influences, at least in the court circles of Langkasuka.

The pomp at the ancient Malayan courts sometimes reminds us of India. Regarding regality in the kingdom of Langkasuka, we read in the *History of the Liang Dynasty* (A.D. 502-556): 'When the king goes out he rides on an elephant, he is surrounded with flags of feathers, banners and drums, and is covered by a white canopy. His military establishment is very complete'.² More details of a royal durbar are available in the Chinese annals regarding the Indianized State of Ch'ih-t'u which lay, according to Wheatley, in the vicinity of Kēlantān in north-eastern Malaya. In an obvious reference to the audience-hall, the Chinese annals proceed to state: '...the king sits on a three-tiered couch, facing north, in rose-coloured cloth, with a chaplet of gold flowers and necklaces of varied jewels. Four damsels attend on his right hand and on his left, and more than a hundred soldiers mount guard. To the rear of the king's couch there is a wooden shrine inlaid with gold, silver and five perfumed woods, and behind the shrine is suspended a golden light. Beside the couch two metal mirrors are set up, before which are placed metal pitchers, each with a golden incense-burner before it. In front of all these is a recumbent golden ox before which hangs a jewelled canopy with precious fans on either side. *Several hundred Brāhmaṇas* sit in rows facing each other on the eastern and western sides'.³ The description leaves no room for doubt about the strong influence exerted by Indian culture in Ch'ih-t'u. Some sociological data are also provided by contemporary Chinese annals. Regarding the dress of the king and the people of Langkasuka in the first half of the sixth century A.D., we read therein: 'Men and women have the upper part of the body naked, their hair hangs loosely down, and around their lower limbs they use only a sarong of cotton. The king and the nobles moreover have a thin, flowered cloth for covering the upper part of their body (*slendang*); they wear a

¹ Vide Groeneveldt, *op. cit.*, pp. 10-11. The name of Pa-ka-da-to has also been transcribed as P'o-ch-ieh-ta-to. The data have also been discussed by Pelliot in *JA*, Vol. IV (1914), pp. 390-391, 402; Ferrand, *JA*, XII (1918), p. 140, fn. 1.

² Groeneveldt, *op. cit.*, p. 10.

³ Wheatley, *op. cit.*, pp. 26 ff.

girdle of gold and golden rings in their ears'.¹ The scanty dress of the women sometimes reminds us of iconographic representation of female figures in India, in temple sculpture and Ajanta frescoes and in other places.² Further details are available in regard to the kingdom of Ch'ih-t'u, where all persons pierced their ear-lobes and cut their hair. Women gathered their hair at the nape of the neck and both men and women made clothes out of rose- and plain-coloured material.³

India contributed to the blossoming of a gay social life in some places of ancient Malaya. Wales has stated that the miniature damaru-drum found in a bronze casket, recovered from the Bujang valley in W. Malaya, reveals a South Indian type.⁴ If Kora or Kalah lay on the west coast, as it seems to, then its people, according to the *New History of the T'ang Dynasty* (618-906), played a kind of guitar, a transversal flute, copper cymbals and iron drums.⁵ Some of these musical instruments were known in India. Indian music received royal patronage in Ch'ih-t'u, a kingdom in the north-western part of Malaya. When the Chinese ambassadors came to the kingdom in A.D. 607, they were received in a gorgeous way and 'a hundred men and women sounded conches and drums', the same way as in ancient Indian courts. When the ambassadors sat, 'Indian music was played'. During the ceremonial feast a few days later, maidens played music in rotation.⁶ In San-bo-tsai, which may refer to the Sumatran or Malayan part of the Śrīvijaya empire, the people had a small guitar and small drums; slaves from Pulu Condore made music for them by trampling on the ground and singing.⁷ Many such examples can be provided from the bas-reliefs of Indian temple-architecture.⁸

It is interesting to observe in this connexion that although the Brāhmanas and other functional groups have sometimes been mentioned in the Chinese annals, the sects and denominations to which they belonged have hardly been described. The Chinese emperor being a follower of Buddhism, the Chinese annalists have referred to this religion in greater detail, sometimes perhaps creating a false impression regarding the comparative importance of this religion in the country. It is also not unlikely that the rulers of Malaya have also occasionally given undue importance to this religion out of various motives. In dealing with such evidence from contemporary Chinese annals, the data have to be handled cautiously. In studying the religious systems of ancient Malaya one has to study, besides the Chinese annals, also architectural, epigraphic and iconographic data of the locality. Out of all these things, one phenomenon

¹ Groeneveldt, *op. cit.*, p. 10.

² Innumerable figures of this type have been found in India, Ceylon, Indonesia, Indo-China and elsewhere, *vide* V. A. Smith, *A History of Fine Art in India and Ceylon*; Zimmer, *The Art of Indian Asia*; A. K. Coomaraswamy, *History of Indian and Indonesian Art*; *Ajanta Paintings*, publ. Lalit Kala Akadami; Krom, *Inleiding tot de Hindoe-Javaansche Kunst III*, etc.

³ Wheatley, *op. cit.*, p. 28.

⁴ For a description, see *JMBRAS*, XVIII (1940), pp. 73-74.

⁵ *Vide* Groeneveldt, *op. cit.*, p. 122. Wheatley, *op. cit.*, p. 56, translates the passage thus: 'Musical instruments include the p'i-p'a and heng-ti, brass cymbals, an iron drum and the calabash.' For want of description, we do not know whether the p'i-p'a can be brought in connexion with the Bengali musical instrument *bhepu* which has almost the same phonetic value. The antiquity of the latter for such an early period is not yet known.

⁶ For text and translation of these passages, *vide* Wheatley, *op. cit.*, pp. 26-30.

⁷ Groeneveldt, *op. cit.*, p. 63.

⁸ *Vide* V. A. Smith, *A History of Fine Art in India and Ceylon*, 3rd edition, plates 73a, 83b, 127, 128, figs. A and C; Zimmer, *The Art of Indian Asia* (1964), plates 232, 409b, 414.

emerges clearly and that is in regard to a broad measure of religious toleration enjoyed by the people.¹ This is not only reflected in the contemporaneous architectural ruins of Buddhist and Brāhmanical structures found co-existing down to comparatively late historical times, but also in references in the Chinese annals.

If we leave aside, for the time being, iconographic data and focus our attention on the Chinese materials, it would appear that Buddhism had already become popular by the sixth century A.D. It has been stated that in A.D. 527 and 530, the king of P'an-P'an sent accredited envoys to present, among other things, a tooth of the Buddha, painted stūpas and ten varieties of perfumes. Six years later (536), an envoy was despatched to present Buddhist relics, miniature painted stūpas, leaves of the Bo-tree, excellent crystallized sweetmeats and perfumes. It has also been stated that there were ten monasteries in the State where the Buddhist monks and nuns studied their canon.² The *Liang Shu* also states³ that in A.D. 530 an envoy from Tan-Tan, another State in Malaya, presented to the Chinese court a memorial which was concluded in fervent Buddhist terms and was accompanied by two ivory images, two stūpas, etc. During and after the reign of Wu-ti (A.D. 502-549), temples throughout China needed Buddhist images, etc., to adorn them. Indeed, between A.D. 527 and 536, P'an-P'an and Tan-Tan supplied Buddhist relics, miniature painted stūpas, leaves of the Bo-tree, ivory images, perfumes, etc., to China.⁴ The importance of Buddhism, as has been sought to be made out, might have been due, firstly, to the political motive of the ruling princes of Malaya to ingratiate themselves in the favour of the Chinese emperor and, secondly, to the fact that China was a Buddhist country and hence the presentation of Buddhist images and similar articles left the impression on the Chinese annalists that the country from which these presents came might have been followers of the Buddhist religion. Such may be the case where the information was derived from hearsay. In any case, the Chinese annals tell us that there were also Buddhists in the kingdom of Ch'ih-t'u. There was a monastery for devotees who studied 'the classic of the Asura-king, but they enjoy no great respect. The Buddhist priests are commonly called pi-ch'iu (*bhikṣu*), the others t'an'. In the State of Fo-lo-an, whose exact location is not known but which seems to have lain somewhere in the Malay Peninsula, Buddhism was also much in vogue. We read that the Buddhist temples of this State were tiled with bronze and ornamented with gold. Each year the full moon of the sixth month was kept as Buddha's birthday, with processions, music and cymbals. It has been stated that foreign merchants took part in these celebrations.⁵ Similar celebrations were also held in P'o-ni or W. Borneo.⁶ It may be noted in this connexion that the princes of San-fo-ch'i or Srivijaya annually burnt incense before the Holy Buddha of Fo-lo-an.⁷

Unfortunately the Chinese annals do not throw much light on the nature and extent of Hinduism in ancient Malaya. What is known has already been described above in a different context: it leaves the impression of the casualness of the whole thing. But what has been stated is enough to show the predominant character of Malayan Hinduism. We can, therefore,

¹ Cf. Wales, *Towards Angkor*, p. 75.

² Text and translation in Wheatley, *op. cit.*, pp. 48-49.

³ *Ibid.*, pp. 52-53.

⁴ *Ibid.*, p. 292.

⁵ *Ibid.*, p. 68.

⁶ Vide Chao Ju-Kua, *Chu-fan-chih*, p. 24.

⁷ Wheatley, *op. cit.*, p. 69.

do well to study the matter further by an examination of the archaeological data of the Peninsula. Unfortunately the earliest phases of religious architecture of Malaya are hard to come by. The ravages of climate, insects, erosive power of equatorial rainfall, nature of materials used and rapid deposition of alluvium have been listed as mainly responsible for the non-existence of buildings from the early days of Hindu colonization. If the roof of a miniature bronze shrine discovered from the Bujang-Měrbok river valley be a replica of early Malayan architecture and if the paucity of laterite blocks and tiles at the foundations of ruined sites be any index, it would appear that the superstructure of temples was built of perishable materials. While the early colonists on the estuary of the Bujang used rounded boulders from the region of the upper course for their structures, those on the banks of the Měrbok and its tributaries used laterite blocks instead of rounded boulders from the upper Bujang. Houses of the common people seem to have been made of atap, bamboo or wood.

At P'ong-Tuk, where the Meklong river enters the delta of Lower Siam, Coedes unearthed a settlement yielding Buddhist remains from the second to the sixth century A.D., while the remains found from P'ra Pathom further down the valley may be dated in the fifth or sixth century A.D.¹ Some scholars believe that Ptolemy's mart of Takkola lay in latitude $160^{\circ} 30' E$ and $4^{\circ} 15' N$ and is no other than the port of Takua Pa.² Whether the identification be accepted or not, it is evident from the explorations of Wales that there was an Indian settlement on an island off the mouth of the Takua Pa river. Ruins of shrines exist in the region about Takua Pa.³ The small shrine at Phra No Hill houses a magnificent four-armed image of Viṣṇu probably dating from the sixth or seventh century A.D.⁴ Vestiges of a small shrine at Khau Phra Narai also testify to some architectural activities in this tract on the west coast of the Malay Peninsula. About twelve miles off from the estuary of the Takua Pa there was another Indianized locality, as the discovery of three images of Hindu divinities would testify. Archaeological discoveries in the region from the third to the eighth century indicate that Takua Pa was a flourishing port during this period.⁵ It is not clear if its decline can be linked up with the decline of the port of Tāmralipti. From Takua Pa a route lay across a low hill feature to Tāmbraṅga in the Caiya (Jaya) district near the Bay of Bandon on the opposite coast. There are traces of Indian penetration along this route.⁶ A Tamil inscription from the ninth century A.D. found with the three Brāhmaṇic images from the Takua Pa valley, as referred to above, attests the presence at Takua Pa and its vicinity of a good number of Tamils, including merchants and soldiers, who supported religious and secular institutions of the locality.⁷ Just like the Takua Pa river in the north, the Trang river in the south provided another route across the Isthmus terminating at Nakhon Sri Dhammarat on the eastern coast. The small settlement at Vieng Sra lay on a tributary of the Luang river at a point lying almost midway between Takua Pa and Nakhon Sri Dhammarat.

¹ *ABIA* (1927), pp. 16-20; *Journ. Siam Soc.*, Vol. XXI, pt. 3 (1928), pp. 195-210.

² The problem of its location has been discussed by many scholars. Their views have been discussed by Wheatley, *op. cit.*, pp. 141-144 and 268-272.

³ *Vide IAL*, IX, pp. 8 ff.

⁴ *Vide Dupont in BEFEO*, Vol. XLI (1941), pp. 253-254; Wales, *Towards Angkor*, p. 45.

⁵ Wales in *IAL*, No. 1 (1935), pp. 9-10; *Towards Angkor*, pp. 47 ff. For earlier literature, *vide* Lajonquiere, *BCAI* (1909), pp. 234-237, and (1912), pp. 166-169.

⁶ Wales, *IAL*, IX, No. 1 (1935), pp. 22-23, and *Towards Angkor*, pp. 51-68.

⁷ K. A. Nilkanta Sastri in *JMBRAS*, Vol. XXII, pt. 1 (1949), pp. 25-30.

Further south, on the west coast, lay other settlements, viz. Kēdah and Province Wellesley, while further down lay Kuala Selingsing in the Matang district of Perak.

In Kēdah and Province Wellesley in the western coast, Col. Low had discovered more than a century ago 'undoubted relics of a Hindu colony with ruins of temples . . . mutilated images',¹ etc., and several Sanskrit inscriptions dating from the fourth or fifth century A.D.² A record of mahānāvika Buddhagupta of Raktamṛttika³ tells us that he donated a votive tablet to his Buddhist iṣṭadevatā, apparently on the successful completion of his journey. Wales excavated over thirty sites in Kēdah and Province Wellesley, including seventeen sanctuaries, three buildings, provisionally identified as palace-halls for king's audience and two forts, together with other unidentified buildings. The earliest one seems to be a fourth-century stūpa-basement on the summit of the Bukit Choras Hill on the left bank of the Sungei Sala Bēsar. This seems to testify to a Buddhist settlement in the neighbourhood. Vestiges of Buddhist temples have also been found in the northern part of Province Wellesley, with Sanskrit inscriptions from the fourth or fifth century A.D.

The explorations of Wales have revealed basements of two stūpas in the heart of the Bujang valley. These have been referred to the fifth or sixth century A.D. Wales excavated the foundations of ten Śaivite shrines from the neighbourhood and referred them to c. A.D. 550-750. The foundations of some of the Śaivite temples of Kēdah seem to have been built by Pallava immigrants,⁴ but in the west coast no surviving buildings of purely Pallava type, corresponding to the Pallava sculpture which has been found, have hitherto been discovered, though Wales thought that he had found, near to one of the Śiva temples, a miniature shrine-roof closely resembling the roof of a Pallava-ratha.⁵ A seventh- or early eighth-century temple excavated on a low spur of the Kēdah peak is believed to demonstrate a transitional form between the South Indian sepulchral shrines and the candis of Java.⁶ Wales has shown that Śaiva temples of decadent Pallava style have also survived from the eleventh-twelfth centuries. Two Mahāyānist temples were also constructed between c. A.D. 750-900 on the same stretch of the river, but these dates have been assailed by others.⁷

On the eastern coast of the Malay Peninsula vestiges of earlier buildings and Hinduized settlements are found in the region about the Bay of Bandon. The transpeninsular route from Takua Pa to Tāmbraṅga-Caiya, and by the Trang river to Nakhon Sri Dhammarat and other places less well known, facilitated Indian settlements in the eastern coast, specially Vieng Sra, Caiya and Nakhon Sri Dhammarat. Wales considers Vieng Sra, or 'The City of the Lake', to be the earliest Indian settlement on the east coast

¹ *Journal of Indian Archipelago and Eastern Asia*, 1849, p. 482.

² *Vide* Low in *JASB*, XVII, pt. 2 (1848), pp. 62-66; *Ibid.*, Vol. XVIII, pt. 1 (1849), pp. 247-249. For recent discussion on the subject, *vide*, among others, R. C. Majumdar, *Suvarṇadvīpa*, I, p. 90; Coedes, *Les états*, etc., pp. 88 ff; K. A. Nilkanta Sastri, *South Indian influences in the Far East*, pp. 82-83.

³ A seal of Raktamṛttikāmahāvihāra has been found from the site of Rājbaridāṅgā in the village Yadupur near Ciruti station in West Bengal (from a communication to a meeting of the Asiatic Society on 1-7-63). For earlier literature, *vide* Watters, *On Yuan Chwang*, II, p. 192; Cunningham, *Ancient Geography of India*, ed. S. N. Majumdar, p. 733; M'Crindle, *Ptolemy*, p. 229; Ferrand in *JA*, 1919, p. 256; Krom, *HJG*, p. 73; R. C. Majumdar, *op. cit.*, pp. 81 ff; Coedes, *op. cit.*, p. 89.

⁴ Wales in *JMBRAS*, Vol. XVIII, pt. 1, sites 4-9.

⁵ Wales, *The Making of Greater India*, p. 34.

⁶ Wales in *JMBRAS*, Vol. XVIII, pt. 1 (1940), pp. 18-21, and K. A. Nilkanta Sastri, *op. cit.*, pp. 84-85.

⁷ Lamb in *Malaya in History* (1958), Vol. IV, pp. 2 ff., and Vol. V (1959), pp. 5 ff.

and capital of the State called P'an-P'an in the Chinese annals.¹ He excavated here bas-relief of a temple in which the image of Buddha was fashioned in 'purely Indian style of the Gupta period'.² While the inscriptions at Ligor and the pillar-inscription at Caiya may be dated in the fourth or fifth century A.D., the building activities in this region, as archaeological evidence tends to show, have to be dated somewhat later. In Caiya the remains of brick buildings lie scattered all over the city, including 'the brick bases of vanished assembly-halls and little brick shrines, the latter looking very much like miniature Pallava sanctuary towers but modified as Buddhist reliquaries and often crowned with lotus capitals'.³ Regarding Nakhon Sri Dhammarat, Lajonquiere observed⁴ that the most important of the colonies in Malaya was located here. It was mainly a Buddhist colony which probably built the great stūpa of Nakhon Sri Dhammarat and part of the fifty temples which surround it. Wales has observed,⁵ 'The archaeological evidence, which shows the survival around the Bay of Bandon of a primitive and non-specialized type of Indian colonial architecture at Caiya and Nakhon Sri Dhammarat, is supported by the existence in the same latitude of the remains of almost purely Indian edifices from which it could have evolved'. Of such temples, the most important ones are the brick temples of Vat Phra That and Vat Keo in Caiya.⁶ The general plan of the temple recalls a type of construction carved on the bas-reliefs of Barabudur.⁷ Some scholars have noticed in the structure a stūpa of the Phra Cheidi style of Siam, with a covered gallery on all sides, but a small building in the courtyard betrays certain features of the temples of Candī Kalasan, Dong Doung and Mison in Campā.⁸ The roof consists of three gradually receding terraces which reproduce in miniature the main temple and the corner stūpas. It represents, with its one hundred and seventy-one seated Buddha statues in the courtyard, the most impressive structure in the Peninsula. The other important brick sanctuary of Caiya is the Vat Keo, which combines the plan of Candī Kalasan of central Java with architectural peculiarities of the cubic art of Campā and the pre-Khmer archaic type of Prasāt Krahām of Phnom Kulen (Cambodia).⁹ It appears to be one of the non-specialized types of early Indian architecture.¹⁰ According to Wales,¹¹ both the Vat Keu and the Vat Phra That temples were 'constructed by the Pallava colonists of Grahi of the seventh or early part of the eighth century as Hindu shrines and were then converted to Buddhist use'. Of the few Brāhmanical temples of Nakhon Sri Dhammarat, the Ho Phra Isuon reveals an Indo-Javanese style in a strange setting. All the present vats of Nakhon Sri

¹ Wales, *Towards Angkor*, pp. 74-75.

² *Ibid.*, p. 76.

³ *Ibid.*, p. 190.

⁴ *BCAI* (1909), pp. 184-185.

⁵ In the article in *IAL*, IX, No. 1, pp. 1-31, cited above; *vide* also his *Towards Angkor*, pp. 153 ff.

⁶ For archaeological description and photos, *vide* Lajonquiere, *BCAI* (1909), pl. II, fig. 7, pl. III, fig. 8; Wales in *IAL*, IX, No. 1, pl. VI, 1 and 3; *BEFEO*, Vol. XXXI, p. 378, 380-384, pl. XXXIX, fig. 41, and pl. XL-XLIV, figs. 42-44; R. C. Majumdar, *op. cit.*, Vol. II, pp. 341 ff., and pl. LXXIV, fig. 2.

⁷ Parmentier in *Etude Asiatiques*, II, p. 210; Lajonquiere, *op. cit.*, pp. 229 ff., figs. 16, 24; *Ibid.* (1912), pp. 148 ff., fig. 34; Wales, *op. cit.*, p. 22; R. C. Majumdar, *op. cit.*, pp. 342 ff.

⁸ *Vide BEFEO*, Vol. XXXI, pp. 373 ff., figs. 39 and 40, and plate XXXVIII; *IAL*, IX, No. 1, plate VI-2; R. C. Majumdar, *op. cit.*, p. 344, and plate LXXIV, fig. 3.

⁹ Coedes in *IAL*, Vol. I, p. 65; R. C. Majumdar, *op. cit.*, Vol. II, p. 342.

¹⁰ Wales, *op. cit.*, p. 21; Coedes, *op. cit.*

¹¹ *Towards Angkor*, pp. 187-188.

Dhammarat have a Siamese appearance, but a miniature shrine of the Sailendra period and some images and ruined Brāhmanical temples of the pre-Sailendra period are not altogether absent from this place.¹ Wales has observed further that the little colony of Brāhmaṇas has preserved in its little temples the memory of an early Indian colonial type of architecture.² The Vat Kampheng Leng temple complex at Pechaburi in the extreme north of the Peninsula, built in Cambodian style, was originally dedicated to Brāhmanical deities, but it also contains images of Buddha.³

In the west coast of the Malay Peninsula some Brāhmanical images have been discovered. On the top of a hill lying in a small island off Takua Pa, there have been found the remains of 'a small brick shrine which had housed a four-armed stone image of Viṣṇu, well over natural height and coifed with a cylindrical metre'. The image, rather stylized, belonged to the Gupta school and may be dated in the sixth or seventh century A.D.⁴ Further south was discovered the well-known cornelian seal of Viṣṇuvarman, found from Kuala Selingsing in the Matang district of Perak; it bears, in incorrect Sanskrit, the legend Śrī Viṣṇuvarmasya in what has been described as Pallava-Grantha character of the fifth or sixth century A.D. The seal seems to depict the image of Viṣṇu seated on Garuḍa, though this is not so obvious.⁵ The Caiya image of Viṣṇu has been modelled on the Gupta style and shows remarkable affinity, specially as regards head-dress and huge ear-pendants, with the Kārtikeya of Bhumara.⁶ Other Viṣṇu images have been found from the Srivisay Hill between Bandon and Surat and from Vieng Sra. According to Wales, the Vieng Sra image seems to be a lifeless copy of a Pallava model. Dupont has also observed that in spite of characterization of cylindrical metre and ankle-length robe, the less well-modelled Viṣṇus found at Surat and Vieng Sra are later local imitations.⁷

Śaiva images are also quite well known. About twelve miles off from the estuary of the Takua Pa river were found three Śaivite images of the Gaṅgādhara group⁸ entwined by twin stems of a great forest tree. The figures betray some affinity with corresponding South Indian images of the seventh or eighth century A.D. Further south, at Sungai Batu in Kēdah, has been discovered a statue of the goddess Durgā and the head of Śiva's bull which, according to Wales, dates from Pallava times.⁹ Some images of Gaṇeśa and Natarāja Śiva have also been found, but the places of their origin are at present unknown. The terracotta Gaṇeśa image found in one of the later Śaiva temples of Kēdah 'is seated in the attitude of royal ease', in sharp distinction from the Indo-Javanese Gaṇeśas.¹⁰

¹ *Towards Angkor*, p. 195.

² For particulars, see *IAL*, *op. cit.*, pp. 22-23, and pl. VII; also *BEFEO*, XXXI, pp. 373 ff., and R. C. Majumdar, *op. cit.*, p. 343.

³ Lajonquiere, *BCAI* (1909), pp. 208 ff., pl. I, figs. 3-5; R. C. Majumdar, *op. cit.*, p. 343.

⁴ Dupont in *BEFEO*, Vol. XLI (1941), pp. 253-254; Wales, *Towards Angkor*, p. 45.

⁵ *Vide JMBRAS*, Vol. XII, pt. 1 (1934), p. 4. Chabra, *JASB-L*, I (1935), No. 1, pp. 27-28, assigns it to eighth century A.D. According to R. C. Majumdar, *op. cit.*, I, p. 81, it has to be dated in the fifth century A.D. A reproduction of the seal may be seen in Chabra, *op. cit.*, pl. 5, figs. 3 and 4.

⁶ *Vide Memoirs of the Archaeological Survey of India*, No. 16, pl. XIII c; Wales, *The Making of Greater India*, p. 31.

⁷ *BEFEO*, Vol. XLI, 2 pls. XXVIII and XXXI.

⁸ K. A. Nilkanta Sastri, *JMBRAS*, Vol. XXII (1949), pp. 27, 30.

⁹ *Towards Angkor*, p. 150.

¹⁰ Wales, *The Making of Greater India*, p. 34.

The earliest specimens of Buddhist sculpture from the Malay Peninsula belong to the Amarāvati school (second to fourth century A.D.), of which some specimens have been found from the archaeological site of Sumatra,¹ East Java,² Celebes,³ Annam,⁴ Thailand,⁵ etc. Such figures showing influence of the Amarāvati school are, however, few and far between. The earliest known Buddha statuette from Malaya, measuring 8½ inches in height, was found in Kēdah by Mrs. Q. Wales. It is believed to date from the fifth or sixth century A.D., but seems to bear the imprint of the Amarāvati school of art, as the folds of its garments and low uṣṇīṣa seem to testify.⁶ Buddhist figures of pure Gupta style have also been found in Vieng Sra,⁷ Kēdah,⁸ Perak⁹ and Caiya.¹⁰ Buddhist bronzes of pure Gupta style have been found in the Perak valley and are good specimens of art.¹¹ A standing Buddha, eighteen inches high, was dredged up at Pengkalan near Ipoh in 1931. The image is in pure Gupta style dating from the fifth or sixth century A.D. The Tanjong Rambutan bronze image of a standing Buddha may also be affiliated to the same school, but the fine eight-armed bronze Avalokiteśvara, thirty-one inches high, dredged up from a mine at Bidor in 1936, now at the Perak Museum, seems to betray South Indian influences from the eighth-ninth century, though two other contemporary bronze figures of the same deity, found from a tin-mine near Sungei Siput, betray Pāla influences. Some of the Buddhist bronzes seem also to be affiliated to the Dvāravati style, which seems to have left its mark up to Ligor. Some of the later specimens have affiliation with South India and Pāla-Bengal. A small bronze image of Tārā, an eight-armed Mahāyānist goddess seated on a throne and dating probably from the tenth century A.D., was also discovered from Caiya.¹² Two magnificent bronze statues of Lokeśvara, discovered about thirty years ago just outside the enclosure of Vat Phra That, is 'remarkable for the serenity of its features, the easy sway of the shoulders and the magnificence of the jewellery which adorn it'. One of the images, 2½ ft. high, has received the highest praise from Coedes, the doyen of historians on South-East Asia, who considers it to be 'among the masterpieces of the sculpture of India and Indo-China'.¹³ The style of these beautiful images is purely Pāla.¹⁴ Votive tablets (oval pieces of baked clay plaque), ranging from the Gupta period to the tenth-eleventh centuries with an image of Buddha or other Buddhist divinities in the centre in a non-conventional sitting posture, have also been found in various places of the Malay Peninsula.¹⁵ The contribution of India to the cultural evolution of ancient Malaya has thus been, as in other spheres, profound and significant.

¹ Schnitger, *The Archaeology of Hindoo Sumatra* (1937), pl. 1.

² Cohn, *Buddha in der kunst des Ostens* (1925), p. 28.

³ Bosch in *TBG*, 73 (1933), pp. 495-513.

⁴ Rougier in *BCAI* (1912), pp. 212-213, and Coomaraswamy, *op. cit.*, p. 197.

⁵ Coedes in *Journ. Siam Soc.*, Vol. XXI.

⁶ *IAL*, XVI (1942), p. 41. *Vide also* Le May, *The Culture of South-East Asia* (1954), p. 74, fig. 47.

⁷ *IAL*, IX, No. 1, pl. V (i).

⁸ *JRAS*, 1946, pl. XV; *JMBRAS*, Vol. XX, No. 1, pls. i and ii.

⁹ *JMBRAS*, Vol. XVIII, pt. 1 (1940), p. 50.

¹⁰ *Ibid.*, *vide also* Evans, *JFMSM*, Vol. XV, pt. 3, pp. 135, 136, pls. xlii, xlii.

¹¹ Wales in *JMBRAS*, Vol. XVIII, pt. 1 (1940), p. 50; Evans in *JFMSM*, Vol. XV, pt. 3, pp. 135, 136, pls. xlii-xlii.

¹² Wales, *Towards Angkor*, pp. 188-189.

¹³ *Ars Asiatica*, XII, pls. 15 and 16.

¹⁴ Wales, *op. cit.*

¹⁵ Photo in *Ibid.*, p. 196.

II

The earliest records bearing on South-East Asia indicate the highly important role played by Indian Brāhmaṇas in the stupendous task of humanizing and civilizing a vast concourse of humanity living in an area of almost continental dimensions. Of known Brāhmaṇic clans, the Kaundinyas of North India, of which a branch exerted considerable influence in the region of Mysore in the second century A.D., took a leading part in this mission.¹ It is probably this branch from South India which undertook, along with others, this task. It is a significant fact that the first and second founders of Funan bore the name of Kaundinya and, according to the *History of the Liang Dynasty* (A.D. 502–556), the family name of the king of P'o-li or Bali was also the same,² while the vaṃśakartā of the dynasty of king Mūlavarman was Kuṇḍunga,³ which also reminds us of the Kaundinya clan of India. That this clan also played a significant role in the history of Malaya appears clearly from the fact that king Kaundinya II of Funan was an Indian Brahmin from P'an-P'an, a State in the Malay Peninsula.⁴ There were hundreds of Brāhmaṇas of other clans and denominations who also participated in this process of Indianizing the lands of South-East Asia, including Indonesia. They were the culture-bearers par excellence, though the contribution of the Kṣatriya and Vaiśya elements was also not negligible. The part of the Kṣatriya element in this process of Indianization has been emphasized by Berg and Moens,⁵ while Krom and Coedes⁶ have, on the other hand, laid stress on the Vaiśya element, i.e. the merchant community, who intermarried with the native women of higher standing. An imaginative expression of what possibly happened has been beautifully described by Winstedt,⁷ who says: 'A ship or so came with the monsoon to exchange beads and magic amulets for gold, tin, ivory, camphor and those rare medicines, rhinoceros-horns and bezoars . . . Here and there a passenger practised magic, that proved potent in love or war or disease. Another won regard as a warrior. Some married local brides. Priests came and taught a new ritual in Sanskrit, awe-inspiring as Arabic was to be later, because it was unintelligible to the multitude . . . In time a few married into leading Indonesian families and brought Hindu ideas of kingship, just as more than a thousand years ago Muslim Tamils married into the families of the Sultans and Bendahars of Malacca.'

The hypotheses referred to above have been challenged by Bosch on the ground that neither any praśasti, which should have recorded a digvijaya in the usual Indian style, nor a vaṃśāvali, which should have testified to

¹ Coedes, *Les états*, etc., p. 58, with literature cited therein.

² The Chinese accounts bearing on P'o-li or Bali have been translated by Groeneveldt, *Notes*, pp. 80–84; Schlegel, *T'oung Pao*, 1901, pp. 329–337, and also partly by Pelliot, *BEFEO*, IV (1904), pp. 283–285.

³ The genealogy of this royal house is given in the so-called Yūpa-inscriptions of Kutei. The first three inscriptions were edited by Kern in *VG*, VII, pp. 55–76. All the four inscriptions were subsequently edited by Vogel in *BKI*, Vol. 74 (1918), pp. 167–232. When three more Yūpa-inscriptions were discovered in 1940, these were edited by Chabira in *JGIS*, XII (1945), and *TBG*, 83 (1949).

⁴ The reference occurs in the Funan section of *Liang-shu*, Chap. 54. Text and translation in Wheatley, *op. cit.*, pp. 47–48. Vide also Pelliot in *Le Fou-nan* in *BEFEO*, III, p. 269, about him and his successor.

⁵ Berg, *Hoofddlijnen der Javaansche Litteratuurgeschiedenis*, 1929, p. 12; Moens, *Srivijaya, Yava en Kataha* in *TBG*, LXXVII (1937), p. 317. Abridged English translation of the paper by de Touche may be seen in *JMBRAS*, Vol. XVII, pt. 2 (1940).

⁶ Krom, *HJG*, p. 90; Coedes, *Les états*, etc., Chaps. II and III.

⁷ Vide *JMBRAS*, Vol. XIII, pt. 1 (1935), p. 18; cf. also Ferrand in *Le K'ouen-louen*, *JA*, 1919, pp. 15 ff.

the high Indian birth in the pedigree of the forbears, has anywhere been found. The virtual absence of Tāmil and Prākṛt words from the classical languages of the Malayo-Indonesian world and the occurrence of only pure Sanskrit words in such vocabulary indicate that the bearers of Indian culture should have primarily belonged to the learned class, i.e. the Brāhmaṇas. Bosch has also posed the question from a different angle. He says: 'For, when Hinduized settlements are mentioned for the first time, they turn out to be established far away in the interior of Borneo and western Java. And it is again in the interior, in the almost inaccessible plains of Kědu and Prambanan, on all sides enclosed by volcanoes, that during the flourishing period of central Java, the royal residence is to be found. What, then, was the way in which the Indian traders came into contact with the Javanese kraton society? Did the king, accompanied by the high dignitaries of his court, betake himself to the coast in order to be Hinduized there? Or did the merchants spare no pains in making frequent and toilsome journeys from the coast to the interior? Both these suppositions are unlikely.' In answering this question, Bosch has not taken into consideration one factor, which has attracted people in all ages and climes, the allurements of gold and wealth of other types. In a Malayan State this was the principal attraction for the Brahmins. The Brahmins who came 'from different countries' to attend the *vahusuvarṇaka* vrata of king Mūlavarman or to celebrate the inauguration of a canal constructed by king Pūrṇavarman of West Java do not appear to be less worldly-minded than the Vaiśyas. Those who had crossed thousands of miles over the turbulent seas were not likely to be frightened by the prospect of going to the interior to court the favour of the king, which alone could show them the way to prosperity. The argument of Bosch about Sanskrit words occupying a position of monopoly, to the exclusion of other Indian languages, is highly instructive and points unmistakably in the direction of the Brāhmaṇas as culture-bearers par excellence. The prominent place of the Brāhmaṇas in the inscriptions of Pūrṇavarman in W. Java, of Canggal and Dinaja, underlines this phenomenon. Bosch has well said:¹ 'Again and again, in Hindu-Indonesian civilization we meet with elements of a theoretical and scholastic character, elements which remind us of the manuscript, the code of law, the recluse's cell, the monastery, and which undoubtedly are just as incompatible an environment of warriors or traders as they are in harmony with an intellectual sphere: with the classes of scribes, scholastics, initiates in the holy scriptures and legal sciences, in short all those whom, in the terminology of the Middle Ages, we are in the habit of calling clerks.'

The remarks made above by Bosch hold good, I think, for Campā and Kambuja as well and are also largely true for Malaya. If the traditional account of Burma can be relied on in respect of the first phase of its colonization, the Kṣatriyas played an important role in its colonization. Even if all things are said in regard to all the communities who participated in the process of Indianization of the lands of South-East Asia, it would appear that the contribution of the Brahmins has been of far-reaching character. The rulers of many of these places who were also eager for a Brāhmaṇic consecration, which involved the utterance of mystic formulas and Sanskrit mantras which were unintelligible to them but which were pregnant with magic power, strengthened their dynasties in this way. The Brāhmaṇas, who settled down in these lands and became the courtiers of such kings, further

¹ *Selected Studies in Indonesian Archaeology*, p. 11.

consolidated these dynasties, on request or out of gratefulness, by pushing their genealogies back to the gods and epic heroes of India. The historical tradition of Indonesia and Malaysia in the late medieval and early modern period, when Islam held sway over this region, indicates similar rehabilitation of the rootless royal dynasties of this region.

Brāhmaṇas also played a prominent part in various spheres of life in Malaya. In the kingdom of Ch'ih-t'u, the arrangement for reception and protocol was elaborate and lay in the hands of the Brāhmaṇas. It has been recorded in the Chinese annals that when some accredited Chinese ambassadors reached the borders of Ch'ih-t'u, the 'king sent the Brāhmaṇa Chiu-mo-lo with thirty ocean-going junks to welcome them. Conches were blown and drums beaten to entertain the Sui envoys on their arrival, and a metal cable was used as a hawser for Ch'ang-Chün's vessel. It took more than a month to reach the capital. The king sent his son Na-ya-chia to welcome Ch'ang-Chün with appropriate ceremony. First, he sent men to present a golden tray containing fragrant flowers, mirrors and golden forceps; two containers for aromatic oil; eight vases of scented water; and four lengths of white folded cloth for the envoys to bathe with. On the same day at the hour of Wei (1 to 3 p.m.), Na-ya-chia again sent two elephants bearing canopies of peacock feathers to welcome the ambassadors and a gilt-flowered golden tray containing a decree. A hundred men and women sounded conches and drums and two Brāhmaṇas conducted the envoys to the royal palace. Ch'ang-Chün presented his credentials in the council chamber, where those below the king were all seated. When the proclamation had been read, Ch'ang-Chün and his retinue were invited to sit while Indian music was played. When this came to an end, Ch'ang-Chün and his suite returned to their dwellings and Brāhmaṇas were sent to offer them food. Large leaves, ten feet square, were used as platters ...¹ It may also be recalled in this connexion that while at Langkasuka, I-tsing was treated 'with courtesy appropriate to distinguished guests'.

The Brahmins in South-East Asia did not always function as priests or courtiers though these appear to be their principal job. They have sometimes founded kingdoms. A revolt of Funan was organized by a Brahmin from P'an-P'an in the late fourth century A.D. In P'an-P'an there were, as the Chinese annals tell us, 'numerous Brāhmaṇas who came from India *in search for wealth*. They are in high favour with the king'.² Many of them obviously became naturalized citizens of the country of their adoption. In Tun-Sun, an important State on the eastern coast of Malaya, we find, for instance, many Brāhmaṇas at the royal court. The *T'ai-p'ing Yu Lan*, which was compiled between A.D. 977 and 983, quotes from an earlier work called *Nan-Shih* to tell us:³ 'There are 500 families of Hu from India, two Fo-t'u⁴ and more than a thousand Indian Brāhmaṇas. The people of Tun-Sun practise their doctrine and give them their daughters in marriage; consequently many of the Brāhmaṇas do not go away. They do nothing but study the sacred canon, bathe themselves with scents and flowers, and practise piety ceaselessly by day and night.' This State was already an important one in the sixth century A.D., because the *History*

¹ Text and translation in Wheatley, *op. cit.*, pp. 26-30.

² Here we find an explicit motive stated for the coming of the Indians, especially Brahmins, in Malaya. The gold-oriented stories of Indian literature and names like Suvarṇadvīpa and Suvarṇabhūmi may be recalled in this connexion.

³ Text and translation in Wheatley, *op. cit.*, p. 17. See also Pelliot, *BEFEO* (1904), p. 274, fn. 4.

⁴ *Hu* and *Fo-t'u* may refer to merchant class. Vide Pelliot, *op. cit.*

of the *Liang Dynasty* (A.D. 502–556)¹ tells us: 'To its market people come from east and west, and it is visited daily by more than 10,000 men'. We have already drawn attention to the huge congregation of Brahmins in the court of the Indianized kingdom of Ch'ih-t'u. The Indian settlement partook of the nature of *kampongs*. It seems not unlikely that there were areas in the neighbourhood of the capital which were exclusively or mainly inhabited by the Brāhmaṇas. Such Brāhmaṇas were obviously the courtiers of the king, giving him advice on various matters and performing other duties, as pointed out above.

There were also 'numerous Brāhmaṇas' in the State of P'an-P'an, where 'the people all learn the Brāhmaṇic writings and greatly reverence the law of the Buddha'. It is obvious that the taboo of sea-voyages² did not deter even the Brāhmaṇas, not to speak of others, from undertaking such voyages which involved, according to Baudhāyana, a penance of three years. Those who broke such religious injunctions were not likely to be scrupulous about marriage with native women, as Chinese annals clearly attest.³ The result of this inter-marriage can even now be discerned in the racial features of some people on either coast of Malaya. In the flourishing port of Takua Pa in the western coast of Malaya, Indians had obviously settled down in large numbers so that persons of the Indian cast of features are common even nowadays. Wales, who made this observation, has also observed the same phenomenon on the eastern coast. He observes: 'Apart from stony relics of the past, there still exists in the Bay of Bandon region a living link with the early days of Indian colonization . . . beyond the watershed there are still a number of families at Patalung and Nakhon Sri Dhammarat in whose veins runs the blood of Brāhmaṇas from India; though, since no female Brāhmaṇa ever accompanied the men, it follows that the Indian strain is somewhat attenuated. At Patalung the Brāhmaṇas seem to be on the verge of melting into the Siamese peasant stock, which forms the main element of the population, because they never perform any ceremonial functions; but at Nakhon Sri Dhammarat they still have three little temples . . .'⁴ The position of the Brāhmaṇas was sometimes assailed by the Buddhists, specially when they became predominant in kingdoms where the sovereign had accepted the Buddhist faith. In a multi-religious State like Ch'ih-t'u the position of the Brahmins has thus been assessed in the Chinese annals of the seventh century A.D.: 'It is the custom to worship the Buddha but greater respect is paid to the Brāhmaṇas.' The Brāhmaṇas were not simply courtiers; they sometimes acted as civil servants of the State. In Tan-Tan the king had eight high officers known as Pa-Tso who were Brāhmaṇas.⁵ Officers at the court of Ch'ih-t'u had elaborate functions, and, if the Sanskrit equation of the Chinese transcription by Coedes be correct, it would appear that all of them bore Sanskrit titles, e.g. sa-t'o-chia-lo: *sādhukāra*, i.e. benefactor or preferably *sārdhakāra*, assistant; t'o-na-ta-ch'a: *dhanada*, i.e. dispenser of blessings, a title that also occurs on a seal from Oc-Eo; chia-li-mi-chia: *karmika* or agent; chu-lo-mo-ti: *kulapati*, i.e. head of the house, which title also occurs in Cambodian inscriptions in the sense of superior of a religious institution; na-ya-chia: *nāyaka* or guide, which title is also found in an inscription from Lopburi;

¹ Groeneveldt, *op. cit.*, p. 119.

² *Manusamhitā* III, 158; *Baudhāyana Dharmasūtra*, I, i, ii, 4.

³ Barth, *ISCO*, p. 159, note 10.

⁴ *Towards Angkor*, pp. 76-77.

⁵ Wheatley, *op. cit.*, p. 51.

po-ti, chief.¹ The last two titles are often met with in Old Javanese inscriptions in the sense of petty officers. If the functions of these officials are analysed, it would appear—provided the interpretation of these terms by Coedes is correct—that at least some of them belonged to the caste of Brahmins. The data from ancient Malaya do not, however, help us to resolve the riddle posed by Brāhmanic and Kṣatriya traditions of India regarding the relative status of the two highest castes in the social hierarchy of ancient India.

ABBREVIATIONS

- ABIA: *Annual Bibliography of Indian Archaeology* (Leiden).
 BCI: *Bulletin de la Commission Archeologique de l'Indo-Chine* (Paris).
 BEFEO: *Bulletin de l'Ecole Française d'Extreme-Orient* (Hanoi).
 BKI: *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indie*, published by the Koninklijk Instituut voor Taal-, Land- en Volkenkunde van Nederlandsch-Indie ('s Gravenhage).
 HJG: N. J. Krom, *Hindee-Javaansche Geschiedenis*, 1931.
 IAL: *Indian Art and Letters* (London). Name has been changed now.
 ISCC: A. Barth and Bergaigne, *Inscriptions Sanskrites du Champa et du Cambodge*.
 JA: *Journal Asiatique* (Paris).
 JASB: *Journal of the Asiatic Society of Bengal* (Calcutta). Name has been changed now.
 JFMSM: *Journal of the Federated Malay States' Museums* (Taiping and Kuala Lumpur).
 JGIS: *Journal of the Greater India Society* (Calcutta).
 JMBRAS: *Journal of the Malayan Branch of the Royal Asiatic Society* (Singapore).
 JRAS: *Journal of the Royal Asiatic Society of Great Britain and Ireland* (London).
 Les etats: G. Coedes, *Les etats Hindouises d'Indochine et d'Indonesie*.
 Notes: W. P. Groeneveldt, *Notes on the Malay Archipelago and Malacca*, published in *Verhandeling van het Genootschap van Kunsten en Wetenschappen*, Vol. XXXIX (1879), reprinted in *Miscellaneous Papers relating to Indo-China*, second series, Vol. I, pp. 126–262.
 Researches: G. E. Gerini, *Researches on Ptolemy's geography of Eastern Asia* (London, 1909).
 TBG: *Tijdschrift voor Indische Taal-, Land- en Volkenkunde* published by the Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen (Batavia, 's Gravenhage). It is now called *Madjalah untuk Ilmu Bahasa, Ilmu Bumi dan Kebudayaan Indonesia* (Journal for Indonesian Linguistics, Geography and Culture).
 VG: H. Kern, *Verspreide Geschriften*, 15 vols ('s Gravenhage, 1913–36).

¹ Vide Coedes, *Les etats*, etc., p. 135; *Recueil des inscriptions du Siam*, II, p. 14. The term Chia-li-mi-chia = karmika may correspond to *karmmanya* of Old Javanese inscriptions.

CASTE INTER-RELATIONSHIP OF THE BĀRUJĪBĪS IN A
WEST DINAJPUR VILLAGE

By TARASISH MUKHOPADHYAY

(Received June 13, 1966)

VILLAGE AND CASTE COMPOSITION

The work embodied in this paper was done in January, 1963, as a part of a comparative study of intercaste relationship in West Bengal—sponsored by the Anthropological Survey of India.

The village of Baghan is located at 25° 38' N. and 38° 16' E. in the police-station of Kaliyaganj (West Dinajpur). At Baghan, the sandy loam, or *bele-doānsh*, is fairly distributed and this factor has been responsible for the growth of betel-vines, i.e. *pān-boroj*, in the village. As the soil is fertile, a fairly large number of crops and vegetables are grown. At the time of investigation, Baghan No. 1 had 103 families whereas Baghan No. 2 has only 66 families. The village was sparsely populated till 1947. But, after the partition of Bengal, a number of families migrated from East Pakistan, purchased land and settled in the village. This new settlement has increased a number of *pārās* or wards. Now there are altogether 11 wards in Baghan located on both sides of the railway line.

So far as the settlement pattern is concerned, the wards tend to thrive mostly in clusters. Each ward is predominantly inhabited by one particular caste. Cases of overlap are not, however, uncommon. These clusters dot the entire span of village. Stretches of paddy-fields lie between them and narrow zigzag foot tracks provide the only link from one ward to another. Ten Bārujībī families, or growers of betel-vine, live in the *Ghose-pārā* (ward of the Sadgops) with certain other castes like Sadgop (CULTIVATORS),* Debaśarmā (CULTIVATORS) and Nuniā (EARTH-DIGGERS). Only one family lives in the *Mājhi-pārā* (wards of *boatmen*), where the Namaśūdra (FISHERMEN), Dhībar (FISHERMEN) and Barman (CULTIVATORS) live.

The village has a total of 169 families with a population of 937. They are divided into 18 castes, excluding a number of Muslims and Santals. It is predominantly inhabited by Hindus, of whom the Debaśarmās (46) constitute the major caste. Also there are Rārhīśrenī Brāhmaṇ (3), Kāyastha (WRITERS) (3), Goālā (MILKMEN) (1), Bārujībī (11), Hāri (BASKET-MAKERS) (19), Baiśya-Sāhā (MERCHANTS) (8), Dhībar (10), Jālīā-Kaibartta (FISHERMEN) (3), Musāhar (PALANQUIN-BEARER) (1), Nuniā (6), Rājvor (CULTIVATORS) (7), Barman (3), Rājbaṅgī (CULTIVATORS) (1), Sadgop (4), Namaśūdra (2) with Muslim (CULTIVATORS) (14) and Santal (3). But it is curious that Baghan is completely devoid of artisan castes and even today, no member of any artisan caste has chosen to settle in that village.

SOCIAL POSITION

In the village, there are altogether 11 Bārujībī families comprising a total of 78 individuals: 41 males and 37 females. The average size of the

* Names of castes printed in small capitals indicate that their occupations are hereditary by tradition among the castes in question.

family was found to be 7-1. In the village, their rank, which also includes the Barmans, is fifth.

All of these 11 families are recent immigrants from East Pakistan. They formerly lived in the districts of Rajshahi, Rangpur and Bogra, from where they came from 7 to 13 years ago. In their new settlement at Baghan, these families have been trying hard to make a living; and it should be recorded that the benevolent Sadgop landholders of Baghan have been very helpful to them in this respect.

The Bārujibī families have different clans or *gotras*. These are *Mukul-rishi*, *Orgashi*, *Kāśyap*, *Gautam* and *Ālādashi*. They do not allow marriage within the same *gotra*, which goes largely against the statement of Risley.

The census data show that most households contain joint families except in one family where the brothers have separated. Cases of simple family and in one case an irregular type of family, i.e. where a particular individual lives alone, are also noticeable. In one family the head of the household takes care of his brother's daughter and she stays with him from her childhood. Probably this is a case of adoption (?) as the head of the household has no issue of his own. In another case, the father-in-law was found to live in the son-in-law's establishment with common messing.

The last generation cared little for education; but at present some have passed the matriculation examination and are trying to go in for higher education.

COMMENSALISM

Regarding smoking, the Bārujibīs will not accept the earthen bowl of a tobacco-pipe from other castes. It is acceptable only from fellow-castemen. The tobacco-pipe is not also acceptable from Hāri (BASKET-MAKERS) or Muslims. But, in general, they accept the pipe from castes of higher rank.

So far as the acceptance of food is concerned, they usually accept items like wheaten pancakes cooked in ghi (*luchi*, *puri*), sweets, curd, etc., from castes like Brāhmaṇ, Kāyastha, Sadgop and Baidya. These items are known as *pākā* food. But regarding cooked rice they are more particular, and as a rule they won't accept it from castes other than the Brāhmaṇs, Baidyas, Sadgop (but not from the Goālās, MILKMEN) and from Kāyasthas. As a matter of fact, formerly they refused to accept even cooked rice from Kāyasthas. But at present, after living very close to them, the intimacy has broken their original rigidity.

Acceptance of drinking-water is also restricted to a limited number of castes living at Baghan. However, the opinion is controversial; but some of the castes were found to be common from whom they accept water unhesitatingly. Thus castes like Brāhmaṇ, Kāyastha, Sadgop, Goālā, Debaśarmā and Barman (Paliyas) are castes from whom water is found acceptable.

A Bārujibī family finding themselves in need of borrowing rice, oil, salt, etc., usually prefer to meet their fellow-castemen or families in the same ward with whom they have friendly relationship. But they seldom borrow from others of a lower group. It is interesting to note that salt, specially that which is in the kitchen and has already been used, is not accepted. This salt is considered by them as *ento* or ritually defiled.

When a feast occurs in a family, castemen living near the home are invited. They also invite others; but that depends more on the economic condition of a family. Thus, in one family, they only invited fellow-castemen, but another family invited castes like Brāhmaṇ, Kāyastha, Sadgop, Debaśarmā, Baiśya-Sāhā and also Muslims. Castes other than Brāhmaṇs sit in the same row—sometimes leaving a little space between. The Muslim

invitees were invited to a feast two days after. Cooking was done separately for them. But the Muslims do not generally mind this discrimination. During the feast, cooking is mostly done by a Brāhmaṇ and so it becomes acceptable to all. Sweets are either made at home or purchased from the market. Milk products are supplied by Goālā (MILKMEN). Some people of lower castes gather uninvited and they are also treated to the feast; though their turn comes last.

TRADITIONAL OCCUPATION AND CHANGE

The traditional occupation of the Bārujibī caste is the cultivation of betel-vine and farming. It is evident that the traditional calling is progressively being given up from one generation to another. What we can assume is that in the first ascending generation families were primarily engaged in farming (4), betel-garden (4), farming and betel-garden (2) and betel-garden and business (1). Again, the same generation accepted the following as their subsidiary occupations: betel-garden (1), business by loans and mortgages (3), farming (3), supplying curds for feasts (1), and none in three families.

In the present generation, six families are engaged in betel-garden—one in betel business, one works as a day-labourer, one is in farming, one in the manufacture of *gurer-maṭkā* (a sweet) and the others are unemployed. Again, so far as the subsidiary occupation is concerned, the nature of occupations is: work in the betel-garden and service (1), work in the betel-garden and farming with one son in service (1), service as health assistant (1), employed in a flour mill and one son assists in father's betel-garden and farming (1) and seven are without any occupation.

SERVICE RELATIONSHIP

The Bārujibīs employ a number of other castes to work for them. For betel-garden, the Bārujibī families usually depend on fellow-castemen. In such cases no cash payment is made, but the labour is returned when the other man needs it. But for other castes, there is the system of cash payment. The payment comes to Re.1 with light food in the morning. But this is not fixed in any way and the rate of payment varies with different jobs. In one case, the construction of the plinth and roofing of a house were entrusted to a Rājbaṅgī on contract and Rs.90 was paid to him on completion of the work.

The same family employed local Debaśarmās of Baghan for washing and cleaning jute. Here, the rate of payment depends on work done. For washing one *pan* or 80 bundles of jute, the labourer gets Rs.1.50, no tiffin or food being provided. During the summer, they work from 6 a.m. to 2 p.m. and by that time some of them can even wash three *pans* or 240 bundles of jute.

In another family, Nuniā labourers came for digging earth. They worked from morning till evening. They got 0.75 *paise* with light meals in the morning and two full meals, one at noon and another at night. Labourers went back to their residence at night.

The same family employed a Rājbaṅgī labourer to work in their betel-garden. The contract was that the labourer would get Rs.2 for carrying a total of 200 bags of mud on a carrying pole. The payment might, however, vary if the conditions were not fulfilled.

So far as the landholding is concerned, none of the 11 families can be considered as affluent. They have a total of only 10.424 acres of land.

One family has a total of $12\frac{1}{2}$ bighas, or 4.06 acres, of land and tops the list. In other families, they have much less land. One family is landless and lives by share-cropping and day labour. Families which have some land either use it for betel-gardens or, if the plot is not fit for growing betel, it is used for other crops. Rice is usually cultivated by the people themselves. Sometimes it may be worked by share-croppers. Some families were found who made their living as share-croppers for others. A number of specific cases are cited here. One family has taken 0.33 acre of agricultural land from a Sadgop farmer of Baghan. Another family has taken $0.16\frac{1}{2}$ acre of land from a Debasarmā of Baghan and yet another family has obtained a plot of 0.66 acre from a Sadgop of Kunarpur, located about a quarter of a mile west of Baghan. One family has given 1.65 acres, i.e. five bighas, of land for share-cropping to a different Bārujībī family of Baghan. Here it may be mentioned that the usual basis of agreement for share-cropping is half of the total produce.

INTER-RELATIONSHIP WITH FUNCTIONAL CASTE AND OTHERS

All the 11 Barui families maintain a sort of fixed relationship with the Bihari (Paschima) barbers of Kaliyaganj. But in any case a particular BARBER is fixed for a particular household. What happens is that these BARBERS, viz. Paltan Thakur, Sital Thakur, Naten Thakur, Bishu Thakur, usually come at Baghan for serving their clients on market days. Markets are in the afternoon (at about 3 p.m.); so they spend the morning by serving families from one corner of the village to the other. For ordinary services, the BARBER gets 25 *paise* for a hair-cut and 10 *paise* for shaving. Hair-cut of children is done at a lower rate, at 12 *paise* per head. According to my informants, they also visit the Baghan bi-weekly market for the same purpose on occasions. They have to contact the BARBERS for ritual purification. But the above report should not make one feel that all the families have had the necessity for the special service of the BARBERS. But from few concrete cases we may learn about their traditional duties and payments as made to BARBERS for their services. In no case was the service of a BARBER woman traditionally fixed.

After childbirth, the Bārujībīs observe ritual pollution for 30 days. The first-shaving and nail-cutting of the new-born and the nail-cutting of the mother are, however, done within a period of the first five days. This ceremony is known as *panchti*.

On the 30th day after childbirth, the same performances are gone through and the pollution is over. In the family of Shri Suresh Chandra Das, a payment of Re.1 was made to a BARBER for his attendance on both the days. This occurred about five years ago. A similar case was reported by Shri Priyanath Dey-Sarkar. He described the system in a more elaborate way. In his family, the period of pollution is for 15 days. The custom is that the BARBER's services are necessary on the fifth day to pare the nails of the infant. On the seventh day, he comes to shave the head of the infant and simultaneously pares the nails of the mother. Again he comes on the 15th day and pares the nails of both. On the 16th day, the Brāhman comes to purify the mother and thus the pollution comes to an end. So far as the payment is concerned, the BARBER was paid a sum of Re.1 with a seer of rice for his performances on all the days together. The Brāhman who came in this occasion on the 16th day was given a payment of Re.1 and a seer of rice.

Bārujībīs observe 15 days of mourning when a death occurs. The BARBER renders his funerary services on the 15th day and the funerary

ceremony is held the next day on the 16th. During the funerary ceremony of Suresh Chandra Das's father, the BARBER was given Re.1 along with some articles of food. This was about five years ago. Cases of payments during marriage were not available.

Six families maintain a general market-relationship with the Dhoba (WASHERMAN) living at Kaliyaganj. The remaining five families have no relationship with them at all. Families maintaining a cash-relationship with WASHERMEN send their clothes to the laundry at Kaliyaganj. Payments are always made there in cash. Other families wash their own clothes. During childbirth, they do not need the services of a WASHERMAN for ritual purification. But it matters during funerary ceremony. One of our informants reported that due to poverty he had not been able to employ any WASHERMAN even on the occasion of his father's death.

At the time of childbirth seven families call for the services of a midwife to attend the mother and the baby. The caste of that woman was not exactly known to them. In one family, during the birth of a male child, Rs.2 and a seer of rice and vegetables were given to her as extra remuneration. Again, during the birth of a female child, a payment of only Re.1 together with other payments were made to her as before. Her duty is to clean the place of childbirth, clean the body of the new-born, and so on. She leaves as soon as her duties are over. The informant stated that the midwife throws away the dirty cloth worn by the mother during labour. The Bārujībī families never use that cloth any more. The midwife also refuses to use it. Four Bārujībī families do not require the traditional services of a midwife.

Some of the families, like that of Nilkamal Das, also send their women to the hospital at Kaliyaganj. They consider it cheaper and convenient as good treatment from qualified physicians can be had in case of necessity. It is interesting to note that in the family of Lakshmi Narayan Sarkar the midwife was employed for the first time. But according to Dharendra Nath Ghose, a Sadgop, Lakshmi Babu is no more taking the service of the midwife as he had some quarrel with her before. So, on the last three occasions of childbirth, the subject himself has been cutting the umbilical cord of his wife. The informant also added that this practice is extremely derogatory and said in confidence that though he knew the fact, he was not going to disclose it to his co-villagers. For, if Debaśarmās, the numerically dominant caste of this village, learnt about this, they would certainly take strong disciplinary action against him. They would immediately boycott him and nobody would invite him to a feast.

Ten Bārujībī families maintain fixed relationship with Basanta Mālākār, a member of the Mālākār caste (GARLAND-MAKER). He comes from the village of Tungail-Bilpara, about a mile away. One family has no relationship with the said Mālākār at all. Generally, he sells pith-made materials for all. For example, in one family he supplies pith-made flowers for the worship of Manasā, the Goddess of Snakes, in the month of Śrāvaṇa (July-August); for worshipping the betel-garden in the *nabamī* of Āshāṛh and Agrahāyaṇa, garlands for decoration on the last day of Paush and during the *biṇayā-daśamī* at the end of Durgāpūjā. On all such occasions, payments varying between Re.0.25 and Re.0.37 are made to him. Here it may be mentioned that the worship of the betel-garden is done by the members of the Bārujībī caste and no Brāhmaṇ is needed for that. It was reported by a different family that they worship the betel-garden in the month of Āswīn (September-October) and Paush (December-January). On each of these occasions a payment of Re.0.12 is made to the Mālākār. Ordinarily

the Mālākār does not press for immediate payment and supplies articles to his customers on credit.

Ten families have fixed relationship with Brāhmaṇs of the Rārhiśrenī and others do not require any service from them. Brāhmaṇs like Anil Chowdhury, Lalmohan Chakravarty of Baghan, Upendra Kishore Roy of Tungail-Bilpara, Makhan Bhattacharyay of Chirail and Aditya Chowdhury of Kaliyaganj have fixed clientele or *jajmānī* relationship with them. It was observed that the Bārujībīs are most intimately associated with Aditya Chowdhury who serves more than half of the Bārujībī families of Baghan.

Some of the families had religious preceptors in their original homes in East Pakistan. But after coming here, most of them have lost connexion with the latter. In case the preceptors have also migrated to West Bengal, they have been maintaining their old relationship with their disciples. Thus the family of Bijoy Krishna Sarkar is visited by their Brāhmaṇ preceptor during marriage, funerary ceremony, and so on. About three years ago, the preceptor and his wife came from Balurghat to attend a marriage ceremony, and a payment of Rs.10 with a *dhoti* and a *śarī* plus Rs.10 as travelling allowance was made to them. The Brāhmaṇ who worked as priest came from Chirail, and a payment of Rs.5 and six seers of rice was made to him.

So far as the rate of payment for worship of household deities is concerned, one family reported a payment of Re.1 with half seer of rice and a napkin to Anil Chowdhury, a Rārhiśrenī Brāhmaṇ priest. It was the occasion of worshipping the Goddess Lakshmī in his family. In another family, the Goddess Lakshmī is worshipped by the women daily. But for worshipping the Snake-Goddess Manasā, a payment of Re.1 with one seer of rice, one napkin plus fruits and rice offered to the deity was made to the Brāhmaṇ priest named Upendra Roy.

In the family of Bijoy Krishna Sarkar, Lakshmī is worshipped by the ladies. But Satyanārāyaṇ, Manasā and Śani are worshipped by different Brāhmaṇs as available on the occasion. According to the informant, on such occasions he pays Re.1 with a seer of rice and a napkin to the attending priest. The Bārujībī families also pay subscriptions for the worship of village goddesses, Kālī and Durgā. Some of the families admitted that they have made vows to Kālī, but no offerings have yet been made to that deity.

Ten Bārui families maintain market-relationship with the Muchi (LEATHER-WORKERS) of Kaliyaganj. One family does not need the service of any LEATHER-WORKER at all. No family has got a fixed cobbler. The repair of shoes is either done by these cobblers or at the market at Kaliyaganj. Rubber shoes are sometimes available in the bi-weekly market at Baghan. But for the purchase of leather-made footwear, they visit shops at Kaliyaganj. One family, however, reported the purchase of a new pair of shoes about six years ago.

All the 11 families have market-relationship with Kumbhakār (POTTERS) who regularly attend the bi-weekly market at Baghan. Sometimes they purchase earthenware from the weekly market at Dhankol about five miles away. But most of the families maintain a sort of fixed relationship with a POTTER named Baidya Pal, of the village of Kunore. Articles are available from him either on cash or on credit. Items which do not satisfy one's taste or likings can be returned on the next market-day.

Iron implements are purchased either from the weekly market at Dhankol or from peddlers who come to Baghan. The names and caste of the shopkeepers are not known to them. But their nature of work makes one believe that they are the Karmakārs or BLACKSMITH (?). They sell or repair old implements on cash payment.

Only a single family keeps fixed relationship with a member of the Hāri (BASKET-MAKERS) of Tilgaon. The other 10 families have only market-relationship with the BASKET-MAKERS of Baghan. The family which maintains fixed relationship provides raw materials for basketry, i.e. bamboo, and gets basketry from the BASKET-MAKER according to an agreed price.

Cane-baskets are available from the Dhankol market. The sellers are Bhuinmāli by caste. The weekly market at Dhankol was surveyed on 17th December, 1962. At that time, many interesting things were noticed. For example, sellers of bamboo-baskets claimed to belong to the caste of Hāri-Baiśya; some claimed that they were Bhuinmāli although it is known that they were Hāris, who are lower than Bhuinmālis or sellers of cane-baskets.

Three families have fixed relationship with the Sūtradhar (CARPENTER). In the case of two families, their CARPENTER, Ramesh Sūtradhar, comes from the village Kunore. The family of Priyanath Dey-Sarkar maintains relationship with Suresh Mohanta, a Vaishnaba, engaged in carpentry. He lives at Kunarpur which is about a quarter mile west of Baghan. The other seven families do not require a carpenter's service.

Three families maintain fixed relationship with the Śankhakār (CONCH-SHELL-WORKER). The other seven families have only market-relationship with them. One family does not need their services at all. In one family, the Śankhakār came from Kaliyaganj and a payment of Rs.2.50 was made to him for a pair of bangles. Two families reported that their Śankhakār, Basanta (surname unknown), came from Kaliyaganj.

For milk-products, two families maintain a more or less fixed relationship with the Goālā (MILKMEN) of Kaliyaganj. The MILKMAN supplies milk on cash or credit. The other nine families cannot afford to buy milk; some families have their own cattle for milk.

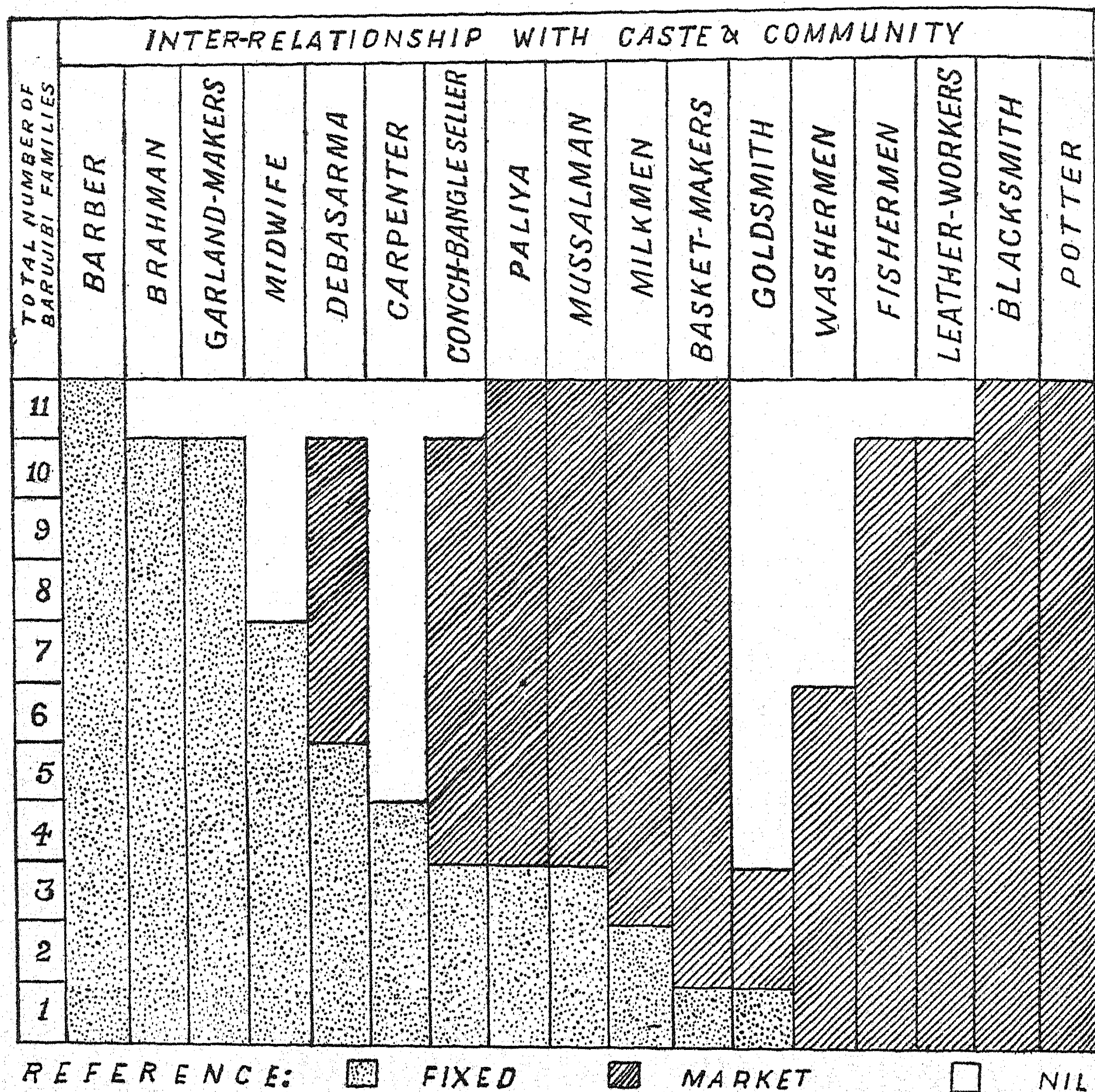
Five Bārujibī families maintain fixed relationship with the Debaśarmās; five families have market-relationship and one family maintains no relationship with them at all. Traditionally, the Debaśarmās are expert in preparing flattened rice, i.e. *chirā*, and their women sell eggs and milk. The Bārujibīs either go to their home or have their requirements from the market at Baghan. The cost of a seer of flattened rice is 72 *paise*.

Three families have fixed relationship with the village Muslims. The other eight families have no ties with them. The Bārujibī families barter betel-leaves with the Muslims for paddy. For example, in one family they have fixed relationship with Katinal Mohammad of Tilgaon and Orip Pradhan of Harinarayanpur. Katinal Mohammad gives annually three maunds of paddy and Upendra Nath Das, a Bārujibī, supplies monthly 600-800 betel-leaves to him in exchange. Again, Orip Pradhan gives him four maunds of paddy annually and in return he gets a regular supply of 800 betel-leaves per month. Thus the family of Priyanath Dey-Sarkar has fixed relationship for betel-leaves with two Muslim families of Tilgaon. On each market-day, the subject gives a hundred betel-leaves to each of those individuals. Each of them had advanced two maunds of paddy to him during the previous year. This system is known as *uthna* or *bandobasta*.

Three Bārujibī families have fixed relationship with the Paliya or the Barman (OIL-PRESSERS). On the other hand, two families have market or cash relationship with them. The remaining six families have no relationship with the OIL-PRESSERS at all. Families having fixed relationship purchase oil from a Barman of Tungail-Bilpara, a neighbouring village. They come to sell oil in the bi-weekly market of Baghan. Families who cannot afford to purchase oil from the OIL-PRESSERS purchase mill-made mustard oil from shops in the market. In one family, they purchase oil from Upen Saha, a member of the Teli (OIL-PRESSER) caste of Kaliyaganj.

As regards purchase or repairs of ornaments, one family has relationship with a Kāyastha engaged in goldsmithy in Kaliyaganj. Two other families have just market-relationship with the GOLDSMITHS of Kaliyaganj. The remaining eight families have not employed any GOLDSMITH for making or repairing an ornament in the recent past.

None of the 11 families has fixed relationship with the Jālā-Kaibarttas (FISHERMEN). Ten families maintain market-relationship and one family does not purchase fish at all. In the market, castes like Bin and Turis also come to sell fish from Kaliyaganj. Purchase is always made by cash.



DISCUSSION

In this paper I have attempted to study a number of Bārujibī families in a West Dinajpur village. It has been my purpose to examine their socio-economic inter-relations and more particularly to see how they have tried to adjust these relations after their migration from East Bengal.

For a clear understanding of the nature of caste relationship, I have used certain code terms to evaluate the nature of relationship with castes engaged in various occupations. A close examination of the study, however, helps us to classify the network of relationships under two broad headings, viz. *Fixed* and *Market*.

When a particular family maintains relationship with the family of a fixed ritual servant or artisans and payments are made in cash, kind or in both, such cases can aptly be placed in the first category. Besides the fixed relationship, many of the necessities of village life are procured through the weekly or bi-weekly markets. A family is tied by close contact with a number of sellers who regularly come to the market and thus a sort of market-relationship is established. Similarly, hawkers and peddlers also go round villages to sell a variety of articles. Regular visits and dealings improve friendship. Like the market, here also the transactions are made in cash and the nature of relationship is comparable to *market-relationship*. However, this type of relationship has nothing to do with caste inter-relationship.

From the material presented, it is evident that the socio-religious aspects of the caste inter-relationships are directly involved with certain functional castes, whereas the economic aspect of caste relationship is more elaborate and binds together different castes having different traditional callings. So far as the service relations are concerned, the demands for services find constant supply offered by different castes. Among themselves a caste also maintains service relations through mutual labour exchange and interdependence. This is also acknowledged and reciprocated by the families involved.

It was observed that the position of a particular caste in the hierarchy is determined first by its own concept about itself and standards of ritual performances and, secondly, by what others think about it. Again, this estimation by others is somewhat dependent upon the class and status of the Brāhmaṇ priests and other functional castes who serve that particular caste.

TERRACOTTA SEALS AND SEALINGS FROM RĀJBĀDĪDĀNGĀ
EXCAVATIONS DURING 1961-62

By S. R. DAS

(Received September 12, 1966)

| | Page |
|--------------------------------------|------|
| Introduction | 29 |
| Making | 29 |
| Types | 30 |
| Sizes | 31 |
| Impressions | 32 |
| Contents | 32 |
| (a) Symbols and Inscriptions | 32 |
| (b) Symbols or Devices | 34 |
| Legends | 35 |
| Sequences and Dating | 39 |
| Purpose | 42 |
| Summary | 44 |
| Acknowledgements | 45 |
| Explanation of Plates | 45 |

INTRODUCTION

In course of excavations at Rājbadīdāngā (Village: Jadupur near Chiruti Railway Station, District Murśidābād, six miles south-west from Berhampore, West Bengal, on the western side of the Bhāgīrathī; longitude: 24° 1' 44" N; latitude: 88° 11' 04" E), conducted during 1961-62 by the Department of Archaeology of the University of Calcutta, many terracotta-inscribed seals and sealings, complete, incomplete and fragmentary, were recovered from most of the excavated trenches. The total number of seals and sealings retrieved in 1962 are more than 98, of which only 41 selected specimens bearing legible or traceable inscriptions and devices are dealt with here for an analysis and discussion. The seals and sealings are mostly fragile and fragmentary. Of the two seals, the letters of one are obliterated; the other is a fragmentary piece containing Greek letters. The discovery of a large number of incomplete and waste sealings during the present and subsequent seasons' excavations tends to suggest that Rājbadīdāngā might have been a great seal-manufacturing centre.

MAKING

The seals and sealings were all made of clay-paste. After the desired shape was given to a lump of clay, the seal-stamp was impressed upon it with a little force, when the clay-lump was held between fingers or on the palm. This process of making is indicated by finger and palm impressions noticeable on obverse and reverse surfaces of most of the specimens. In certain instances, the desired shape has been also considerably disturbed or deformed by the pressure of fingers. On a large number of specimens, again, sparkling fine tiny mica particles can be noticed. Mica-dust was not, however, externally applied to give a sparkling quality. Fine mica particles are also noticeable in sections of fragmentary sealings. This proves that micaceous, not mica-tempered, clay-paste was used for making

these sealings. This is also confirmed by innumerable pottery specimens containing fine mica particles.

The stamped wet sealings were then sun-dried and baked, perhaps in a special fire-pit. But the majority of the sealings are ill-burnt and fragile. The sealings are so delicate and frail that they are easily subjected to wearing out and breakage. It seems that no particular care was taken in making and baking the sealings. Most of the specimens have a rough surface without any indication of slip-application. Again, the majority of the sealings have a reverse surface that is considerably rough and disordered in appearance. Rough and uneven groove channels or depressions or simple deep grooves characterize the reverse surface of many specimens. The reverse surface of sealing No. 1 bears two uneven holes at the top, one horizontal deep channel-depression and one deep sharp channel-cut at the bottom. On the reverse surface of some other sealings there are simple horizontal raised cut-lines or reed-impressions. Some, again, give an indication of rough wood-impressions (No. 26). It appears that the wet sealings were also placed on wood-pieces for sun-baking. Such impressions might have been also caused during burning with wood-pieces. The reverse of sealing No. 19 has a well-cut small deep hole or cavity at its top, perhaps for fixation. A few specimens, mostly roundish, elongated and small flat discs, have an even reverse surface, possibly smoothened by rubbing with fingers. The obverse surface of most sealings is, however, evenly spread and smooth. The specimen No. 40 bearing the representation of a cow(?) and her calf below has a polished obverse surface. The obverse surface of some other sealings has been also made even or smooth by fingers. This is amply indicated by finger impressions on many sealings.

Any distinct indication of slip-application is absent. In a few instances, a thin dark slip of ash or charcoal-powder diluted in water might have been applied before stamping, perhaps, to make the impression more prominent and legible. On specimen No. 22 this kind of slip-application has withered out, thereby making the impression dim and faint. The colour of the sealings varies from grey to dark or from pale terracotta to bright terracotta. In most cases dark colour has been due to contact with fire. The sealings with terracotta colour are mostly well burnt. Certain specimens, again, have an obverse surface bearing partly or wholly darkish colour and the reverse, terracotta colour.

Waste products are indeed numerous. Some specimens do not contain even any evidence of stamping or seal-impression. Yet, their shapes and forms give clear indication that they were meant for stamping, but for certain reasons they were discarded or left out. Perhaps, the desired shape or form was not found suitable for stamping. In certain cases, the impressed surface was disrupted or distorted during the process of 'firing'. Most surprisingly enough, such waste products, with or without inscriptions, were also burnt along with the perfect or finished products. This shows that no careful selection of the stamped sealings was made before firing. It is likely that the selection was made after the baking had been over. Again, such waste products were also recovered in association with the finished or perfect sealings in pit depositions. Innumerable waste and incomplete sealings certainly bear witness to their local manufacture.

TYPES

The original shape in most specimens appears to have been considerably disturbed during the process of stamping or baking. The shapes of the fragmentary sealings could not be correctly ascertained. Broadly speaking,

the terracotta seals and sealings may be divided into seven types according to their shapes and forms: (i) small flat discs, (ii) oval, (iii) round or roundish, (iv) roundish square, (v) elongated, (vi) conical and (vii) irregular or indeterminate.

(i) *Small flat discs*.—There are altogether ten small flat disc sealings, of which four bear motifs and six inscriptions only (Nos. 30–39). All the sealings are well burnt and complete.

(ii) *Oval*.—Of five oval or roughly oval-shaped sealings (Nos. 1, 20, 20a, 21, 24 and 40), one is uninscribed. These sealings are also all well burnt. The specimen No. 20 (20a) is a fragmentary sealing but inscriptions inside three impressions are extant. Of these oval sealings, the specimen No. 1 bearing *Dharmachakra*-deer symbol above and two lines of inscription below is a significant discovery of this season's excavation. It is complete and well burnt. The sealing No. 24 containing the *Dharmachakra*-deer motif recovered from the lower level of the seal-yielding layers is a fragmentary one. The uninscribed fragmentary sealing No. 40 bears a wonderful representation of a cow(?) and her calf.

(iii) *Round or roundish*.—There are 10 round or roundish wellburnt sealings (Nos. 2–10 and 41) and one seal. Excepting sealing No. 8 all other roundish specimens were recovered from one particular layer at an average depth of 8' 4" below surface. The discovery of a roundish and wellburnt fragmentary seal bearing incised Greek letters is indeed a unique find during the present season's excavation (Nos. 2 and 2a).

(iv) *Roundish square*.—Only one roundish square sealing was recovered (No. 12).

(v) *Elongated*.—Two elongated specimens (Nos. 22 and 23) with inscription inside a groove-channel on each were recovered from the upper levels of the seal-producing layers.

(vi) *Conical*.—Only one conical seal with circular stamping base-surface was found (No. 25). The letters on the stamping surface are all obliterated.

(vii) *Irregular or indeterminate*.—There are altogether 12 sealings of irregular or indeterminate shapes (Nos. 11, 13–19 and 26–29). In this category are included mostly the fragmentary sealings, the shapes of which are indeterminate and also those whose original shapes have been distorted due to the pressure of fingers at the time of stamping or during baking. Again, all these irregular sealings excepting No. 11 were recovered from identical layers and depths.

SIZES

Like the shapes the sizes of the sealings also differ considerably. On the consideration of the different sizes of the complete specimens three categories can be recognized—tiny or small, medium and large. Of the complete oval type sealings, the largest one measures 4.8 cm. × 4.2 cm. (No. 1), and the sealing No. 21 is a medium-sized one measuring 2.1 cm. × 1.8 cm. The roundish square type sealing No. 12 measures 1.9 cm. × 1.8 cm. Amongst the small disc specimens bearing either inscriptions or motifs the shortest and largest diameters are 2.00 cm. and 2.9 cm. (Nos. 30, 31, 33 and 36). Diameters of all other specimens fall between 2.1 cm. and 2.4 cm. The complete round or roundish specimens have varying diameters from 1.7 cm. to 2.1 cm. (Nos. 8 and 10). Other complete sealings which are roughly roundish differ in sizes from 1.5 cm. × 1.3 cm. to 2.1 cm. × 2.00 cm. (Nos. 3, 5 and 9). The complete irregular sealings measure 1.6 cm. × 1.4 cm. (No. 16) and 1.7 cm. × 1.5 cm. (No. 13). Two fragmentary specimens with *Dharmachakra*-deer motif (Nos. 24 and 28) appear to have been originally large-sized oval

sealings. Complete elongated specimens (Nos. 22 and 23) measure 2.1 cm. \times 1.7 cm. and 2.4 cm. \times 1.4 cm. The length of one complete conical stamp-seal (No. 25) is 3.1 cm. The roundish fragmentary seal bearing Greek letters measures 2.00 cm. \times 1.8 cm. (No. 2).

IMPRESSIONS

There are single or double or triple stamp-impressions on a sealing. Such impressions are of different sizes and forms: circular, oval, oblong, square, horizontal groove channel or channel-cut, rhomboid and round or circular groove. The size of the impressed area is primarily dependent on the sizes and shapes of the sealings. The most common form of impression is circular. There are no less than 20 specimens of different shapes and sizes with circular impressions. The flat disc sealings with or without inscriptions bear invariably circular impressions. The circular impressions on flat discs with motifs only contain clear borderlines (Nos. 36-39) and the diameters of the impressed areas vary from 1.4 cm. to 1.9 cm. Other flat discs with inscriptions have circular impressions with the diameters of the impressed areas varying from 1.2 cm. to 1.9 cm. There are three sealings with identical diameters of the impressed areas of 1.8 cm. The diameters of circular impressions on others (Nos. 3, 4, 6, 7, 10, 13, 15, 17 and 25) vary from 0.9 cm. to 2.9 cm. There are at least five sealings with identical diameters of the circular impressed areas: 1.1 cm. (Nos. 3 and 10), 1.2 cm. (Nos. 3(a) and 13) and 1.3 cm. (Nos. 4 and 6). The sealing No. 19 though irregular in shape caused by the pressure of fingers has a complete circular impressed area having a diameter of 1.00 cm.

Of the sealings with oval impressions, the specimen No. 26 contains two impressions. There are both deep and shallow oval impressions, and the measurements of the impressed areas differ from 3.1 cm. \times 2.8 cm. to 1.3 cm. \times 1.00 cm. The oval-impressed area of sealing No. 1 measures 3.1 cm. \times 2.8 cm. There are two sealings with oblong impressions (Nos. 12 and 20), and the impressed areas measure 1.4 cm. \times 0.7 cm. and 1.5 cm. \times 0.5 cm. Besides one square-impressed area of 1.3 cm. \times 1.3 cm., the specimen No. 27 bears, perhaps, another circular impression on the left. The horizontal groove channels or narrow channel-cut impressions are noticeable on sealings Nos. 20(a), 22 and 23. On sealings Nos. 22 and 23 the groove channel areas measure 1.8 cm. \times 0.7 cm. and 2.00 cm. \times 0.6 cm., and on sealing No. 28(a) the narrow channel-cut impression measures 1.7 cm. \times 0.4 cm. Two sealings, Nos. 8 and 11, have rhomboid-impressed areas (1.00 cm.). The impressed area of specimen No. 11 comprises borderlines meeting at corners, but No. 8 bears systematically arranged border dots-decoration. Sealings bearing double impressions are Nos. 3, 15, 26 and 27. Triple impressions are extant only on specimen No. 20 (20a) which bears two oblong and one narrow channel-cut impressions. But the majority of the sealings contain single impression each.

CONTENTS

The contents of the sealings and seals may be discussed under two heads: (a) symbols and inscriptions; (b) symbols or devices only.

(a) *Symbols and Inscriptions*

There are about 17 sealings bearing both devices and legends. On all specimens with motifs and inscriptions the symbols are to be invariably found on the upper register of the sealing upon one or two or three rows of

horizontal lines in succession and one or two or three lines of inscriptions on the lower register. In certain instances the motif is also extant upon tiered pedestal consisting of horizontal lines. No less than seven different kinds of motifs or devices can be recognized: flower (lotus), plant, cattle head (buffalo ?), deer, bird, *Dharmachakra*-deer and indeterminate.

(i) The sealings with a *floral motif* on each are three in number. In each case the motif is to be found on one or two horizontal lines and below, one line inscription. The floral motif in all specimens is the conventionalized form of lotus (*Nelumbium* specimen). The lotus-petals of No. 13 consist of six slightly extended knobs or studs from a central one above one horizontal line, but those of No. 18 have been indicated by six simple dots with one in the centre as its thalamus. On specimen No. 15 the flower device comprises three small vertical lines upon one horizontal line and below, one line inscription. Of the two impressions with a floral motif on each, the one on right is complete, but the one on left-hand side is broken excepting the floral device and last two letters of the inscription. The lotus symbol on specimen No. 7 comprises conventional loop designs on two horizontal lines.

(ii) Three small sealings bear *plant motifs* (Nos. 5, 16 and 19). In all specimens the tiny plant has been beautifully executed on one horizontal line. The plant is a conventionalized form of palm-tree (*Phaenix sylvestris*) and its execution in all the three specimens is identical, consisting of a vertical stem with a triangular border base and three bending terminal tuft of leaves on its both sides (No. 5).

(iii) There is only one complete sealing with *cattle-head device* on one horizontal line and below, one line inscription (No. 11). The horns are upright and slightly curved at the pointed ends.

(iv) Only one round sealing contains *deer motif* (No. 3). The sealing bears two circular impressions, on each of which the device consists of two small deer facing each other above two horizontal lines.

(v) A small round sealing (No. 4) bears, plausibly, a *bird motif*. On right, the tiny bird symbol is extant but the one on left is indistinct. It seems that the bird on right faces to left another motif, perhaps a bird. Both the figures are above one horizontal line. The sealing No. 6 also, plausibly, bears a bird symbol upon one horizontal line.

(vi) Certain specimens contain symbols which could not be recognized. The impression on No. 10 is indistinct and only two lines of inscription are extant on its lower register. But the specimen No. 27 bears a square impression with a motif on its upper register. The motif may be traced to have been formed with two studs, one above the other. From each stud two lines may be traced to have slightly extended horizontally from its both right and left sides. It has not been possible to recognize the symbol.

(vii) But the sealings containing the symbol of *Dharmachakra* flanked by two deer are indeed the most outstanding discovery during the first season's excavation at the site. There are four sealings (perhaps five) with *Dharmachakra*-deer motif (Nos. 1, 14, 24, 29 and 28). Of these sealings, Nos. 14, 24 and 28 are fragmentary. The specimen No. 28 bears on its upper part a small *Dharmachakra* on a pedestal consisting of three horizontal lines. The *chakra* comprises one central dot as the nave with eight spokes radiating from it to the rim. The *chakra* is also flanked by two deer, the one on left is extant just below the wheel and the other on right is partly broken. Below the tiered pedestal one line of inscription can be traced. The specimen No. 29 is also a fragmentary sealing and its impression is dim and indistinct. It appears that the upper register might

have also contained an oval *Dharmachakra* flanked by two deer. The deer on left is faintly traceable and two horizontal lines are extant. Another similar fragmentary sealing is No. 14, on which also the deer on left above one horizontal line is faintly traceable. But the representation on the fragmentary sealing No. 24 consisting of an oval *Dharmachakra* with dots decoration is distinct. The *chakra* appears to have been, as usual, flanked by two deer, but only the deer on right is faintly traceable. Of the sealings containing the *Dharmachakra*-deer motif, the complete specimen No. 1 is in perfect condition. The upper register of the oval impressed area bears an oval *Dharmachakra* on a tiered pedestal consisting of one small and two long horizontal lines from edge to edge of the impressed area. The oval *Dharmachakra* measures 0.7 cm. \times 0.6 cm. One central dot (indistinct) forms the nave and the spokes radiate from it up to its rim which is blurred. Only four or five spokes can be traced. The *Dharmachakra* is flanked by two small lively deer in kneeling position above two horizontal lines with raised necks directed to the top of the *chakra*. Below the tiered pedestal there are two lines of inscription.

Similar terracotta inscribed sealings with analogous symbol were also discovered from Pāhāḍpur, Nālandā and in recent years from Ratnagiri. The Pāhāḍpur type contains the usual *Dharmachakra* on a tiered pedestal of three horizontal lines, flanked by two deer. But the *chakra* consists of a circle with a stud inside as its nave and four traceable spokes radiating from the nave up to its rim. The device on the Nālandā sealings is also identical, but the spokes of the *chakra* have been indicated by dots all along the border of the circle. Besides, below the symbol there is only one horizontal line of dots extending from edge to edge of the impressed area. The Nālandā specimen is finer and more sophisticated than other analogous sealings. On one of the four Ratnagiri sealings the *chakra* consists of two circles with the nave and the spokes inside the inner one, and the tiered pedestal is absent. The second specimen bears a circular *chakra* with radiating spokes inside and the pedestal is missing. But on another specimen the *chakra* is represented on a tiered pedestal as on Pāhāḍpur and Rājbadīdāngā sealings. On the lower register of each of the four specimens there are two lines of inscription and below, ornamental devices consisting of horizontal lines, which are absent on similar other sealings from Nālandā, Pāhāḍpur and Rājbadīdāngā. Similar *Dharmachakra* motif flanked by two deer is also to be found on the seals affixed to the Pāla copper-plates.

(b) Symbols or Devices

Besides these sealings bearing both symbols and inscriptions, there are five specimens containing motifs only. These include four complete small flat discs and one fragmentary oval sealing (Nos. 36-39 and 40). Each of the discs containing a circular impression with clear borderline bears conventional eight-petalled lotus symbol (Nos. 36-39). On each specimen the floral motif consists of alternate groupings of four blossomed and budding petals from the circular *androecium*. The petalling on the sealings, Nos. 37 and 38, is identical, but the petalling on No. 36 is different. The sealing No. 39, however, bears the device of a budding lotus with two petals on both sides of the peduncle. But the most interesting specimen is the fragmentary sealing No. 40. Originally, the specimen was oval in shape with an oval impression. Its portion on right is broken. It bears a beautiful representation of a cow (?) standing with its upright horns and its calf below engaged in sucking milk. The cattle is seen standing in a posture as if engaged in chewing leaves of a realistically presented plant on left. From the aesthetic point of view the representation is superb.

Thus the symbols on sealings comprise conventional floral (lotus) and palm-tree, cattle head, bird, deer, cattle and calf and the *Dharmachakra* flanked by two deer. Most of these devices speak of their relation with the Buddha and Buddhism. In fact, *Dharmachakra*-deer motif symbolizes the Buddha's preaching of the first sermon at *Mṛgadāva* (Sārnāth).

LEGENDS

On the strength of the inscriptions four categories of sealings and seals may be recognized: (I) Monastery sealings with *Dharmachakra*-deer symbol above and two or more lines of inscription below, bearing the name of *Raktamṛttikā-vihāra*; (II) Buddhist formula bearing sealings; (III) Personal sealings containing the legends of individual names in one or more impressions on each; (IV) One round fragmentary seal containing a legend in Greek letters. Language of the inscriptions is either *Prākṛt* or Sanskrit written in characters belonging to c. fifth to ninth-tenth century A.D. The legends on the sealings illustrated here have been read by Professor D. C. Sircar and Dr. B. N. Mukherji.

(I) At least four sealings bearing the *Dharmachakra*-deer symbol above one or more lines of inscription below are the most significant finds of this season's excavation. Of the four sealings (Nos. 1, 14, 24 and 28), three are fragmentary, and the specimen No. 1 only is in perfect condition. This sealing bears the *Dharmachakra*-deer symbol on its upper register and two lines of inscription on the lower part. The legend on the sealing has been read by Professor D. C. Sircar:

- L 1. *Śrī-Raktamṛttikā-mahāvaiḥā-*
- L 2. *rik-ārya-bhikṣhu-saṅghasy* (II*)

[This is the seal] of the community of the noble monks of the great monastery at the illustrious *Raktamṛttikā*.

The fragmentary sealing No. 14 bears three lines of inscription on the lower register below the tiered pedestal. The upper register containing the *Dharmachakra*-deer motif is broken. The legend on this sealing has been read by Dr. B. N. Mukherji:

- L 1. *Raktamṛtti(kāyām*)*
- L 2. *(vi)hār(e) (Ārya)*
- L 3. *bhikṣhu(saṅghasya ?)*

The lower part of sealing No. 28 is broken and its upper register as usual bears the *Dharmachakra*-deer motif on the tiered pedestal, below which, the upper part of the first line of the inscription is only extant. A few letters are traceable and the legend has been read as *Koṇḍhika(s)ya* or (*Gondhikasya ?*). That it is a monastery sealing is clearly indicated by the motif, but the legend of the first line refers, perhaps, to an individual name. The third fragmentary monastery sealing is No. 24. Its lower part bearing the inscription is broken, and the partly extant upper part contains an oval *chakra* with dots-decoration, perhaps, flanked by two deer, and the one on right is faintly traceable. That the specimen is a monastery sealing is borne out by its symbol.

Similar sealings with *Dharmachakra*-deer motif on the upper register and the legend on the lower containing the names of the Buddhist monasteries have been also recovered from Pāhāḍpur, Nālandā, Ratnagiri, etc. The specimen from Pāhāḍpur bears the legend:

- L 1. *Śrī-Somapurī*
- L 2. *Śrī-Dharmapāla-deva-*
- L 3. *Mahā-vihārīy-ārya-bhikṣhu-saṅghasya*

(...issued by the community of the venerable monks belonging to the great *Vihāra* of Somapura founded by Dharmapāla). The Nālandā monastery official sealings also bear *Dharmachakra*-deer motif and legend in three lines: *Śrī Nālandā-mahāvihāriy-ārya-bhikṣu-saṅghasya*, i.e. of the community of the venerable monks of the great monastery at Nālandā. In recent years several specimens of such sealings have been also recovered from Ratnagiri (Orissa). Four specimens bear identical motif and legend in two lines on each: *Śrī Ratnagiri-mahāvihāriy-ārya-bhikṣu-saṅghasya*. Excepting the name of the monastery the legend on the sealings from Pāhāḍpur, Nālandā and Ratnagiri is identical with the one on Rājbadī-dāngā specimens.

On the basis of the legend on the monastery sealings recovered from Rājbadīdāngā it has been now possible to locate exactly the hitherto unknown present geographical position of the illustrious *Raktamṛttikā-vihāra* which was visited by the Chinese pilgrim, Hiuen Tsang, in the seventh century A.D. The name *Raktamṛttikā* also occurs in a fragmentary slate stone inscription from Malay Peninsula (Northern district, Wellesley Province) discovered in 1834. Just in the middle of the stone plate is found a beautifully carved Buddhist *stūpa*, and on its both sides there are lines of inscription. First is the Buddhist *sūtra*: *ajñānāc = cīyate karmma janmanah karmma kāraṇa [m]; jñānān = na cīyate [karmma karmmaābhāvān = na jāyate]*. On the right the legend is: *mahānāvīkabuddhaguptasya raktamṛttika vās [tavyasya]* and on the left: *sarvveṇa prakāreṇa sarvvasmīn sarvvathā sa (r) vva ... siddhayāt [r] ā [h] + [:] santu*.

The Buddhist *sūtra* inscribed above, perhaps, bears a magical import and the legends on its both sides give clear indication that the navigator Buddhagupta, a native of *Raktamṛttikā*, had the blessings of the Buddhist *saṅgha* for his safe journey and success.

The language of the inscription is Sanskrit written in *Brāhmī* of the southern variety of the Pallava style. On palaeographical grounds Kern ascribed this inscription to A.D. 400. It is clear from the inscription that the great navigator Buddhagupta was a native of *Raktamṛttikā* and went to Malaya, perhaps from his native place. Kern identified this *Raktamṛttikā* with a place in Malay Peninsula (*Chi'h-tu*, i.e. red earth in Siam). This is hardly possible because the names, Buddhagupta and his native place, *Raktamṛttikā*, are both Indian. Besides, the practice of carrying or dedicating such objects containing magical charms is chiefly Indian. Accordingly, *Raktamṛttikā* of the inscription is to be located somewhere in the eastern parts of India. Some think that *Raktamṛttikā* rendered as *Rāṅgāmāṭi* is to be identified with a place of the same name in Bengal. But there are many places even in Bengal bearing the name *Rāṅgāmāṭi* in the districts of Chittagong and Murśidābād and also in North Bengal and in Assam.

In the seventh century A.D. the Chinese pilgrim, Hiuen Tsang, visited the illustrious *Lo-to-wei-chi-sang-kia-lam* (or *Ki-to-mo-chi*) rendered as *Raktamṛttikā-Saṅghārāma*. There is a detailed record of this monastery in the accounts of the Chinese pilgrim. It is quite reasonable to suppose that *Raktamṛttikā* of Hiuen Tsang's accounts is the same *Raktamṛttikā*, the native place of the great navigator Buddhagupta, mentioned in the inscription from Malay Peninsula. Further, the Chinese pilgrim has clearly stated in his accounts that *Raktamṛttikā* monastery stood in the neighbourhood of *Kaṇasuvārṇa*, the capital city of the Gauda kingdom in the seventh century A.D.

But the identification of *Raktamṛttikā* of the Malayan inscription and *Raktamṛttikā-mahāvihāra* described in the Chinese pilgrim's accounts and

also of Karnasuvarṇa, the famous capital city of the Gauda king, Śaśāṅka, has been a matter of controversy amongst the archaeologists and historians from the middle of the nineteenth century. Various sites in the districts of Singhbhum, Manbhum, Burdwan, Birbhum, Malda and Mursīdābād of Bihar and Bengal have been suggested, but none could produce any unimpeachable archaeological evidence in support of any identification. Therefore, the discovery of sealings bearing the name of *Raktamṛttikā-mahāvihāra* during the excavation under report is of great historical significance. The sealing in question was issued by the community of the noble monks of the great *Raktamṛttikā* monastery (several sealings bearing the name of *Raktamṛttikā-mahāvihāra* were also recovered during subsequent excavations at the site). On the basis of the legend on such sealings it is now possible to identify exactly the illustrious *Raktamṛttikā-vihāra* of Hiuen Tsang's accounts and *Raktamṛttikā* of Malayan inscription with the excavated site at Rājbadīdāngā. This identification is also supported by other archaeological evidences including structural remains and other finds. In this connection it may be mentioned that a village of the name of Rāṅgāmāṭi is still extant near Rājbadīdāngā. In fact, the earth of the high cliffs on the bed of the neighbouring river, Bhāgīrathī, is characterized by red colour, and even today the local villagers use this red earth for painting their mud walls. It is still more significant that the excavations unearthed structural remains covered with *surki*-ramming and lime-plaster coated with red paint. This red-coating appears to have been applied by a thick red liquid made of red earth diluted in water. Accordingly, one may venture to presume that the Buddhist monastery, the remains of which were exposed during excavations, was named *Raktamṛttikā* after the local red earth and also because of the very fact that its structures were coated with red paint. It is now clear that the great navigator Buddhagupta, an inhabitant of *Raktamṛttikā*, went to Malaya with the blessings of the *Bhikṣu-saṅgha*, perhaps of the *Raktamṛttikā* monastery, and as a grateful token of his safe journey he might have dedicated the stela on reaching Malaya. Further, on the strength of the identification of the *Raktamṛttikā-vihāra* with Rājbadīdāngā, Karnasuvarṇa, the capital city of the Gauda kingdom in the seventh century A.D., can now be located with greater exactitude in the neighbourhood of the excavated site of Rājbadīdāngā.

(II) There are altogether six small disc-sealings (Nos. 30-35) and one deformed roundish sealing (No. 9) containing the sacred Buddhist formula. Each small disc bears four lines of inscription, and letters in most specimens are worn out. From a few letters that are legible it is clear that the legend on six sealings and inside the deep oval impression of the specimen No. 9 comprises the Sanskrit version of the sacred Buddhist *sūtra* consisting of the saying of *Sthavira* Aśvajit, the foremost of the five disciples of the Buddha:

*Ye dhammā hetuppabhavā tesāṃ hetuṃ Tathāgatō āha,
Tesāṃ cha yō nirōdho evaṃ vādī mahāsamaṇō (Apadāna,
Sāriputta-apadāna, śloka, 146).*

(Existences which flow from a cause, their cause the Perfect One teaches, and how they end: this is the doctrine of the great *Samaṇa*). This saying of Aśvajit later became a doctrine of 'confession of faith in Buddhism'. 'Undoubtedly it refers to the doctrine of the concatenation of causes and effects, on which doctrine tradition, . . . represents Buddha's thoughts as being fixed, when he sits under the sacred tree of the Buddhahood. The painful destiny of the world works itself out in the chain of operations

which flow from ignorance; the doctrine of Buddha tells us what these existences are, dependent one on another, springing from ignorance, and how they come to an end, i.e. how the suffering of the world is removed.' This sacred formula is to be found inscribed on monuments, seals, etc. Similar sealings with this Buddhist creed have been also recovered from Pāhāḍpur, Sārnāth, Nālandā, etc. At Nālandā again bricks bearing the inscription of the creed or the *sūtra* texts have been found in the core of the votive *stūpas*.

(III) Sealings bearing personal names fall into two groups: (a) Sealings containing legends of individual names and varied motifs; (b) sealings bearing only personal names.

(a) (i) Four sealings bearing the conventional flower motif (lotus) contain such individual names as: *Śāntasenasya* (No. 15), *Lada* (or *ḍa*) *Tasa* or *Layasa* (No. 7), *Narasi* or (I) *śarasa* = *Īśvarasya* (No. 18) and *Bhramarasya* (No. 13). (ii) There are three sealings with the conventional plant motif (palm). Of these specimens, Nos. 5 and 6 bear identical legend: *Virabuddhi*. The legend on the sample No. 16 is illegible. (iii) There is only one sealing (No. 11) with the cattle-head motif bearing an individual name, *Dhiruḥ*. (iv) Sealing No. 3 contains two circular impressions with deer motif and legend in one line inside each. The identical legend in both impressions is *Īśvarasya*. (v) The legend on sealing No. 4 with, perhaps, a bird motif is *Vṛddhava(la)* and the one on No. 10 with an indeterminate device has been read as *Vyausakasaya*. (vi) The motifs on sealings Nos. 19 and 29 are indeterminate and the legends are: *Guhyāchakraḥ* and *Jātar(u)dra*. The former may or may not be a personal name. (vii) The sealing No. 27 with an indeterminate motif bears the legend: *Apradā*.

(b) Individual names also occur on sealings without bearing any motif. Such sealings with the legends of individual names may be grouped as: (i) Personal names in single impression and (ii) personal names inside double or triple impressions. The legends of personal names in single impressions consist of: *Harama(m)ḍara-de(va*)* (No. 8), *Sarabha*, *Chandramu(kha)* (*śrī*) or (*śa*) (No. 12), *De* (or *vi*) *ha raṇa* (No. 17), *Baladeva* (No. 22), *Da (?) yagu* (No. 41). (ii) The sealing No. 26 bears two impressions with one line inscription in each, perhaps, having identical legend: (*Śrī*) *var(u ?)-navarmma*. The specimen No. 20 (20a) is a very interesting one having two oblong and one narrow channel-cut inscribed impressions. The legend in the first and second impressions are *Guṇākarasena* and *Sha* = (*śrī*) *Viravainadina* (*śrī Viravainyadatta*). The legend inside the narrow channel-cut impression is *sāshanalathi* = *sāśanayashthī* which may mean the rod of punishment. It may, perhaps, refer to a police official as well.

The individual names inscribed on the sealings are all different. There are only four sealings with identical motifs and names (Nos. 5 and 6, 3 and 18). The sealing No. 3 also bears identical names in two impressions with an analogous device. Three impressions on sealing No. 26 only contain three different individual names. All these sealings bearing individual names may be recognized as personal sealings.

Among inscribed seals one complete but distorted conical specimen (No. 25) with broad circular stamping surface may be recognized as a stamp-seal. Unfortunately, the letters on the stamping surface are all obliterated. Of the seals the most significant discovery of the excavation at Rājibādīdāngā is a fragmentary seal containing Greek letters. The fragmentary seal No. 2 (2a) bears deeply incised Greek letters. The script has been deciphered by Dr. B. N. Mukherji and the legend read as: *Horae(?)*.

Horae (singular *Hora*) figure prominently in Greek religion and myths. They are mentioned in Hesiod (c. eighth century B.C.) and Homer. Originally there were two *Horae* and subsequently the number increased to three and finally to 12 in accordance with the changes in the enumeration of the seasons. *Horae* were regarded mainly as deities of seasons and Nature order. The two original *Horae* were the bestowers of spring and early summer. Later on the deity was endowed with ethical power and thereby became the guardians of good order, peace and justice. In the hymn of the Kouretes found in Crete dated in A.D. 200 it is said: 'And the *Horae* began to teem with blessings year by year, and justice to possess mankind, and all wild living things were held about by wealth-loving peace.' In Greek art *Horae* appear as fair maidens. An earlier representation of triple *Horae* is to be found on a vase from Florence belonging to c. sixth century B.C. The Greek mythology recognizes *Horae* as presiding over seasonal changes and as protector-guardians against all evils and dangers.

If the seal in question is a Graeco-Roman one, its discovery at Rājbadīdāngā is extremely significant. It is, perhaps, a unique find in India. There may be two possible explanations of the presence of the seal in Rājbadīdāngā. First, the seal might have been imported from another place which was in contact with the Romans or the Roman world because Rājbadīdāngā has not yet yielded any concrete evidence of such a contact; secondly, the specimen might have been also locally made in imitation of a Graeco-Roman seal. If it is accepted as an imitation product, the site should have produced a few more specimens. But, unfortunately, it is the only seal of its kind found at Rājbadīdāngā. Accordingly, the possibility of its importation is more suggestive. Rājbadīdāngā was indeed a great centre of the Buddhist monastery establishments, and as such certainly maintained direct or indirect contact with contemporaneous Buddhist centres in and outside Bengal. In this connection, particular reference may be made to certain excavated archaeological finds from Tamluk (Midnapur—ancient Tāmralipti, an international port town and a great centre of Buddhism) during 1954-55, which speak of Roman contact in the first two centuries of the Christian era. That Rājbadīdāngā had a direct link with Tāmralipti is beyond any doubt. In fact, according to the *Si-yu-ki* the Chinese pilgrim, Hiuen Tsang, came to Karnaśuvārṇa directly from Tāmralipti. In the event of such a contact the importation of this seal from Tāmralipti or any other source may not be an improbability. It is not unlikely that the Roman traders and navigators might have kept such seals in their possessions and, whenever required, sealings could be produced by stamping. Such a seal or sealing might have also a magical virtue of protection against all odds and dangers faced by the navigators and traders in different seasons. If the seal bears the name of the said Greek deity, it may be suggested that the stamp-seal in question was in the possession of a Greek or a Roman who plausibly visited Rājbadīdāngā. The alternative is that the seal might have been brought by somebody from Tāmralipti or from some other port towns. Yet, the possibility of its local product cannot be entirely ruled out. As no similar specimen has yet been discovered from any other site nothing definite can be said about this seal at present. But the fact remains that the discovery of the seal at Rājbadīdāngā certainly speaks of the Graeco-Roman contact with Eastern India.

SEQUENCES AND DATING

Regarding the stratigraphical sequences of the seals and sealings particular reference is to be made to two important layers, namely layers

(4) and (7a) of the trench A⁴ which yielded majority of the sealings. In all the excavated trenches the sealings were recovered from almost identical layers and depths. As the trench A⁴ yielded largest number of sealings it would be profitable to discuss the composition of its different layers, more particularly its seal-producing layers, and their relation with the structural remains unearthed in the trench (Pl. VI).

The uppermost seal-producing layer (4) consisted of loose darkish soil along with innumerable sherds and brick-bats. The layer was in fact composed of a deposition of filth and garbage. That it was a disturbed layer of debris is also borne out by patches of different compositions marked in the section as (3a), (4a) and (4b). The layer (4) was found covered by layer (3) which was composed of compact light brown earth mixed with brick-bats and sherds. But it is the layer (7a) which yielded most of the sealings, and a few were also recovered from layer (7). Layers (7) and (7a) were sealed by layer (6) consisting of compact clay mixed with sherds. Layer (7a) was composed of heavy deposition of loose, dark and ashy debris along with innumerable sherds and brick-bats and other minor antiquities. This heavy deposition of debris ranging from 1' 4" to 8" in thickness was found covering the Phase II wall exposed in the north-western corner of the trench. Below (7a) was layer (7b) consisting of compact greyish clay devoid of sherds but with a few brick-bats. Again layers (8) and (8a) were characterized by compact brown earth mixed with bats and sherds, and *surki*-ramming respectively. Layer (9) consisted of grey sticky clay with a few sherds and tiny bats. The composition of layer (10) consisted of sandy silt deposition with few brick-bats at its bottom, and the layer (11) was formed by compact clay with dark brown strains, below which ran the natural soil.

The first phase of construction was on the natural soil, and on its debris was laid the foundation of the Phase II wall which was subsequently covered by heavy deposition of debris (7a). The rammed *surki*-layer (8a) was, plausibly, an indication of the floor-level corresponding to the exposed wall. From the stratigraphical sequences it is thus clear that the building remains belonging to first two phases of construction were distinctly anterior to the seal-producing layer (7a).

The culture-assemblage in layers (7a) and (4) consists of various rich minor antiquities, such as different kinds of terracotta objects like figurines, balls, discs, cones, beads and polished black, red and grey sherds, bowls, fragments of sprinklers, etc. Other fragmentary finds recovered comprised iron tools and nails, shell objects, cowrie-shells, animal and fish bones, copper pieces, etc. The nature and character of finds from both the levels are almost identical. This also proves disturbances in layer depositions. But none of these finds can be accurately dated. The polished grey, red and black sherds are to be ascribed to the post-Christian periods. The fragments of sprinklers consisting of stem-body, flange-rim and perforated knobs recovered during the excavations are, however, of considerable importance. But, unfortunately, such specimens were also discovered from all levels up to a depth of 8' 2" below surface. Real sprinklers supposed to be of foreign origin are to be attributed to the first few centuries of the Christian era. But the local products of sprinklers continued for many

centuries. At many excavated sites the sprinklers have been recovered from various sorts of datable depositions ranging from first-second century A.D. to sixth-eighth century A.D. This dating also roughly corresponds to the seal-producing layers. The area under excavation was found terribly disturbed and, as such, any exact sequential reconstruction could not be made.

Because of the paucity of other datable finds recovered during the excavation excepting stucco heads, copper-*chakra*, terracotta figurines discovered in other trenches, all from pit depositions, the ascription of exact dating to different layers posterior to the building constructions of Phases I and II in A⁴ is absolutely dependent on the palaeographical dating of the seal-inscriptions. Palaeographical dating has been ascertained from the specimens bearing legible inscriptions. Of the 41 specimens illustrated here, 29 sealings were recovered from the trench A⁴ alone. On palaeographical consideration all the sealings are to be attributed to a period ranging from c. fifth-sixth century A.D. to c. eighth-ninth century A.D. Only three sealings (Nos. 11, 19, 7) bear certain letters which can be attributed to c. fifth-sixth century A.D., and all others are to be mostly ascribed to c. seventh-eighth century A.D. Of the three sealings assigned to c. fifth-sixth century A.D., two (Nos. 19 and 7) were recovered from the layer (7a) at a depth of 8'-8' 2" below surface and one from layer (4) at a depth of 4' 1" (No. 11). As to the sealing No. 7 Dr. B. N. Mukherji has suggested in his observations (included in explanation of plates) that certain letters may be attributed to c. fifth century A.D. Out of the remaining 26 specimens from trench A⁴ belonging to c. seventh-eighth century A.D., eight sealings (Nos. 1, 3, 9, 21, 23, 31, 33 and 34) were recovered from the layer (4) at varying depths of 3' 10" to 5' 3½" below surface and 18 from the layer (7a) at depths of 8' to 8' 6". Accordingly, it has not been possible to ascribe separate datings to the two seal-producing layers. This is also borne out by the discovery of sealings belonging to c. seventh-eighth century A.D. from almost similar and corresponding layers and depths in other excavated trenches. In this connection a passing reference may be made to the seal No. 2 (Pl. I) bearing Greek letters. Palaeographically, the earliest dating of the Greek letters on the seal is to be attributed to c. fourth century B.C., but this style of writing continued almost unchanged even in later periods. At Tamluk the discovery of rouletted ware and sprinklers ascribed to Period II has been supposed to speak of contact with the Roman world belonging to first two centuries of the Christian era. But at Rājibādīdāngā no rouletted ware was found, and the fragments of sprinklers were recovered from all levels excepting the uppermost layers. On the other hand, the seal bearing Greek letters was found in association with other sealings belonging to c. sixth-eighth century A.D. On the strength of the associated datable finds this particular seal is also to be attributed to c. sixth-eighth century A.D.

The area under excavation at Rājibādīdāngā was found largely disturbed, and all the excavated trenches witnessed evidences of continuous depositions of debris and pits. In such disturbed depositions it is hardly possible to reconstruct accurately the chronological sequences even on the basis of the palaeographical dating of the seal-inscriptions. It is indeed very much confusing that all the sealings ascribed to c. fifth-eighth century A.D. were recovered from both the upper (4) and (5) and lower (7) and (7a) layers. Such findings clearly demonstrated continuous disturbed

depositions from layer (4) up to layer (7a) covering the Phase II wall. That the layers (4) and (7a) were considerably disturbed is also proved by the nature and character of the deposition. In fact, both the layers supplied evidences of pits and debris which were all subsequent to Phase II structure and the floor level. Accordingly, all seal-yielding layers were posterior to structures of Phases I and II. It then follows that the Phase II wall is to be ascribed to a period earlier than c. sixth–eighth century A.D. From a consideration of the distinctive structural sequences at the site the sealings may be tentatively regarded as contemporaneous with the Phase III structural remains. Layers corresponding to Phases II and I building activities did not yield any sealing.

PURPOSE

Nothing definite can be said about the distinctive purposes, for which these various inscribed and uninscribed terracotta sealings and seals were used here. Generally speaking, such terracotta sealings might have been used for different purposes such as official authority seals, identity tokens, pilgrimage tokens, amulets and charms, votive offerings, fixation tablets, sealing of letters or packets and also as decorative and ornamental devices.

The sealing bearing *Dharmachakra*-deer motif above and inscription below with the legend of its being issued by the community of the monks of the monastery was plausibly used as a token for conveyance of authority or identification mark. Such a sealing again might have been as well put into operation as a tablet or record with the name of the monastery and its symbol admitting an individual into the community of the monks of the monastery. The legend on sealing No. 1 gives the information that it belongs to the community of monks or that it is being issued by the community of the monks of the great monastery, *Raktamṛttikā*. This kind of sealing was either an identity or authority token or a document of admission into the convent. In other words, such a sealing was mostly the official seal of the Buddhist monastery. Similar official monastery sealings have been also found at Pāhāḍpur, Nālandā, Ratnagiri, etc. In all cases the sealings belonged to the *Bhikṣu-saṅgha* of the monastery concerned.

In the case of sealing letters or parcels the usual practices were: (a) to attach or fix a wet lump of clay of any desired shape and then to impress upon it the stamp-seal; (b) to suspend a baked clay sealing containing the names, etc., impressed. In the first process the clay sealing remains unbaked and naturally preserves string impressions or marks of packets, etc., and in the second, the clay sealing bears a perforation or hole meant for suspension. In the first process, again, the sealing might have been subsequently baked by the recipient of the letter or packet for preserving it as a record or voucher. Numerous such sealings bearing the names of the officials and private individuals have been also recovered from different sites. But the monastery sealings or other sealings from Rājibādīdāngā do not contain any distinctive marks of string or letters. Instead, the reverse of the monastery sealing has an uneven surface with grooves, channel-depressions, etc., giving a disordered appearance. Such indications on the reverse surface may be suggestive of a sort of fixation or attachment but not possibly to letters or packets.

The sealings bearing symbols and legends of individual names appear to be mostly identity tokens. But the devices on these sealings also speak of their distinct relationship with Buddhism, and as such they may be recognized as votive offerings with the name of the devotee or pilgrim stamped on them. Further, the sealings containing the individual names only

without any motif were also probably used as identity tokens. It is, however, difficult to determine the real purpose of the sealings bearing identical or different legends of individual names inside double or triple stamp-impressions. These sealings may also be taken as votive offerings.

But the sealings containing the sacred Buddhist formula made by the pilgrims or devotees were mostly votive offerings. Sometimes the small disc-sealings bearing the Buddhist creed used to be placed inside votive clay *stūpas*, cavities of plaques containing the figures of the Buddha and also at the back of the Buddha-images. Such evidences of the use of the Buddhist creed-bearing sealings have been found at Nālandā, Pāhāḍpur, Sārnāth, Maināmati, etc. At Nālandā one votive *stūpa* contained no less than 1,000 unburnt clay caskets, each encasing two small plaques with their inscribed faces together. At Pāhāḍpur as well similar sealings were found inside the votive *stūpas* and cavities of the terracotta plaques. Again, at Nālandā many bricks with the Buddhist creed or the Buddhist *sūtra*-texts inscribed were discovered from the core of the votive *stūpas*. At Kotila-Mura (near Sālban *Vihāra*, Maināmati, Comilla, East Pakistan) miniature *stūpas* and baked clay sealings were discovered from the cells. Such a practice of depositing creed-inscribed bricks was also followed for acquiring religious merit. In this connection it would be profitable to make a particular reference to the observation of the Chinese pilgrim, I-Tsing, who speaks of the practice of depositing relics of the Buddha and the *gāthā* or the chain of causation, i.e. *Ye dhammā . . .*, etc., inside the *chaityas*. Kanishka in the first century A.D. deposited the Buddhist scriptures (compiled at the fourth Buddhist Council), engraved on copper sheets in a stone vessel and built a *stūpa* over it.

Amongst the Buddhists there are four classes of objects of worship and veneration: (a) corporeal remains of the Buddha; (b) objects used by the Buddha; (c) objects associated with the Buddha such as the *Bodhi*-tree, *chaitya*, etc., and (d) *dharma* as preached by the Buddha. The Chinese pilgrim, I-Tsing, has given a good account of such practices in the seventh century A.D. He says: 'The priests and laymen in India make *chaityas* or images with earth, or impress the Buddha's image on silk or paper, and worship it with offerings wherever they go. Sometimes they build *stūpas* of the Buddha by making a pile surrounding it with bricks. They sometimes form these *stūpas* in lonely field to leave them to fall in ruins. Anyone may thus employ himself in making the objects for worship. Again, when the people make images and *chaityas* which consist of gold, silver, copper, iron, earth, lacquer, bricks and stones, or when they heap up snowy sand they put in the images or *chaityas* two kinds of *śarīras*: the relics of the great teacher and the *gāthā* of the chain of causation.' This *gāthā* is: *Ye dhammā . . .*, etc., spoken by Aśvajit to Sāriputra. Oldenberg thinks that the *gāthā* belongs to the *Nidānasūtra* which explains the origination and the cessation of what are called here: *dhammā hetu-pabhavā*. The Sanskrit version is to be found mostly on the votive gifts of images, tablets, plaques, seals, etc. The merits derived from placing such *śarīras* in the *chaityas* or images are indeed abundant and numerous.

After the early centuries of the Christian era authentic relics of the Buddha were not easily available. So the tablets and seals, containing the *Nidānasūtra*, used to be deposited in the *stūpas*, *chaityas*, etc. This *sūtra* was of paramount importance both to the monks and laymen, for this was the most sacred next to the four venerable truths (*ārya-satyāni*). It was believed that a proper understanding and realization of this *sūtra* would lead to the attainment of *Nirvāṇa*. Accordingly, both to the *bhikshus* and the

laymen this *sūtra* became the most sacred possession, and the offering of tablets, images, sealings, etc., containing the formula was considered to be of great merit. Even the clay-*stūpas* were consecrated by the presence of the seal-relics. The offering of such a votive *stūpa* was considered as a great religious merit like the building and dedication of a shrine. The devotees or the pilgrims offered also such sealings as tokens of their veneration to the Buddha and Buddhism and deposited them in the votive *stūpas*. This idea or feeling appears to have inspired the pilgrims or the devotees to deposit the creed-bearing 'sealings in the circular hollow or cavity on the back of the clay plaque containing' the representations of the Buddha. Such plaques were mostly ill-fired, and the creed-sealings were placed inside the cavity and thence filled with clay before baking. These plaques or *stūpas* encasing the creed-sealings were then consecrated as the most sacred votive offerings. The richer people generally offered the images of the Buddha made of metal or clay with the creed-sealings deposited at their backs, and the common people might have offered simply the formula-bearing sealings. But such distinctive evidences of the offering of creed-sealings are absent at Rājibādīdāngā. The creed-bearing sealings have been mostly found in pit depositions in association with other inscribed sealings. It appears that the Rājibādīdāngā formula-bearing sealings were simple votive offerings to the *stūpas* or shrines or even to the images of the Buddha. In this connection it is worth noting that the sacred formula summarizing the doctrine of causation, which is the essence of the Buddha's teaching, was looked upon as a real embodiment of the faith and thus probably did the duty for the corporeal relics of the Master in these later times when it was impossible to obtain them. Thus the main purpose of offering these sealings was to acquire religious merit. It may be, however, suggested further that the creed-bearing sealings might have been distributed as well amongst the pilgrims or devotees who certainly preserved them as their most sacred possessions being the *memento* of their visit to a Buddhist shrine or monastery. Not only that, even such sealings were also plausibly used as personal possessions against evil eyes and dangers or for any other religious consideration. Hence the creed-bearing sealings might be recognized as magical charms as well.

The purpose or the use of the sealings bearing symbols only is not definitely known. The common motif represents either a budding or blossomed conventional lotus which again discloses association with the Buddha and Buddhism. Thus these sealings may be also considered as votive offerings. But the possibility of their use as decorative or ornamental devices may be also recognized.

Though nothing definite is known or recognizable about the distinct purpose or purposes for which all these inscribed or uninscribed terracotta sealings were put to use, it may be presumed that they were mostly identity or authority or pilgrimage tokens and votive offerings.

SUMMARY

From the above discussion on the inscribed and uninscribed terracotta seals and sealings discovered during excavations at Rājibādīdāngā it follows:

(i) That the inscribed and uninscribed terracotta sealings are of various shapes and sizes and that most of the sealings bear both symbols and legends, and a few contain either inscription or motif only inside varied forms of impression;

(ii) That the seals and sealings were mostly discovered from two particular deposits, namely layers (4) and (7a) at varying depths of 3' 4" to

8' 6" below surface, and that the latter deposition was found overlying the Phase II structure (in trench A⁴) which was anterior to the said layer (7a);

(iii) That on palaeographical grounds the inscribed sealings are to be attributed to a period ranging from c. fifth-sixth to ninth-tenth century A.D., but mostly to c. seventh-eighth century A.D.;

(iv) That the sealings bear legends of individual names, the Buddhist creed formula, the name of the illustrious Buddhist monastery, *Raktamṛttikā-mahāvihāra*, and decorative floral and animal motifs;

(v) That excepting the monastery sealings, all other sealings were perhaps mostly votive offerings or identity or pilgrimage tokens;

(vi) That the recovery of innumerable, incomplete and waste products of seals and sealings during excavations is very much suggestive of Rājbadīdāngā being a seal-manufacturing centre as well like other Buddhist monastery sites. As these sealings were in great demand by the devotees or pilgrims for making votive offerings, they were to be supplied from a nearby station, and often special seals with the names of the pilgrims or lay worshippers were also made to order;

(vii) That on the basis of the legends on the monastery sealings supported by other archaeological finds it is now possible to locate definitely the illustrious Buddhist monastery, *Raktamṛttikā-mahāvihāra*, at the excavated site at Rājbadīdāngā, and hence also Karnaśuvāṇa, the capital city of the Gauḍa kingdom in the seventh century A.D., in its neighbourhood.

ACKNOWLEDGEMENTS

Grateful thanks are due to Professor D. C. Sircar and Dr. B. N. Mukherji for kindly reading the legends, Professor S. K. Saraswati for active help and valuable suggestions, Prof. P. C. Ghosh for kindly going through the manuscript, Sri D. Chakrabarti for helping in tabulating finds, Sri B. Chatterji for section drawing, Sri Nitai Das for photographs and Sri R. Mukherji of the Department of Archaeology, Calcutta University.

Note—¹ Words, 'Seal' and 'Sealing', have been used as meaning a Seal-matrix and an impression made by a seal respectively (Webster's Third New International Dictionary. 1966).

² Layer numbers in the text, (7a), (3d), (4a), etc., to be read as (7a), (3d), (4a) etc. [with Capital letters], as in the sections in Plate VII.

EXPLANATION OF PLATES

PLATE I

1 and 1A. Complete; locus A⁴ 6' 7½" × 10' 6" — 4' 11"; layer (4); roughly oval; max. length 4.8 cm.; max. breadth 4.2 cm.; well burnt; pale terracotta colour; reverse surface, rough and irregular—at the top two holes on left and right sides, in the middle one horizontal deep channel-cut, perhaps for fixation; obverse smoothed by fingers indicated by finger impression; shallow oval seal impression measuring 3.1 cm. × 2.8 cm.; upper register—an oval *Dharmachakra* on a tiered pedestal; *Dharmachakra* measures 0.7 cm. × 0.6 cm.; *chakra* flanked by two lively deer with raised necks directed to it; lower register—below the tiered two lines of inscription; legend (read by Prof. D. C. Sircar: *Śrī Raktamṛttikā . . . Bhikṣu-saṅghasya*; c. seventh-eighth century A.D.; monastery official sealing.

2 and 2A. Fragmentary; locus A⁴ 9' ½" × 17' 7" — 8' 4"; layer (7a); originally round; well burnt; partly darkish and deep brown colour; max. length 2.00 cm.; max. breadth 1.8 cm.; above, one semi-circular incised line; below, deeply incised Greek letters extant; legend (read by Dr. B. Mukherji): HA[C = i]PAH = *Horae* (?); from c. fourth century B.C. onwards—found in association with sealings datable from c. sixth-eighth century A.D.; a Graeco-Roman seal.

PLATE

3 and 3A. Complete; locus A⁴ 15' 10" × 11' 5" — 5' 1½"; layer (4); roundish; well burnt; pale terracotta colour; deformed by finger pressure; finger impression present; max. length 2.1 cm.; max. breadth 2.00 cm.; two deep circular impressions, diameters 1.1 cm. and 1.2 cm.; above, two deer facing each other in both impressions; below, two horizontal lines and one line inscription in each impression; identical legend in both impressions (read by Prof. D. C. Sircar): *Īśvarasya*; c. seventh-eighth century A.D.; a personal sealing.

4. Complete, lower portion slightly damaged; locus A⁴ 10' × 15' 1" — 8' 5"; layer (7a); ill burnt; dark colour; roundish deformed by finger pressure; finger impression present; max. length 2.1 cm.; max. breadth 1.8 cm.; almost circular impression; diameter 1.3 cm.; above, a bird motif (?) on left facing another, and under, one horizontal line; below, one line inscription; legend (read by Dr. B. Mukherji): *Vṛddhava(la)*; c. seventh-eighth century A.D.; a personal sealing.

5. Complete; locus A⁴ 8' 6½" × 6' 5" — 8' 4"; layer (7a); well burnt; bright terracotta colour; roundish, deformed by finger pressure; max. length 1.5 cm.; max. breadth 1.3 cm.; roughly oval impression—1.2 cm. × 1.00 cm.; above, conventional palm-tree motif upon one horizontal line; below, one line inscription; legend (read by Prof. D. C. Sircar): *Vīravuddhī* (identical with the legend on No. 6); c. seventh-eighth century A.D.; a personal sealing.

6. Complete; locus A⁴ 7' 3" × 5' 7" — 8' 2"; layer (7a); darkish colour; well burnt; roundish, slightly deformed by finger pressure; max. length 1.8 cm.; max. breadth 1.5 cm.; almost circular impression—1.3 cm.; above, perhaps a bird (?) motif upon one horizontal line; below, one line inscription; legend (read by Prof. D. C. Sircar): *Vīravuddhī* (same as on No. 5); c. seventh-eighth century A.D.; a personal sealing.

7. Complete; locus A⁴ 11' 5½" × 16' 2" — 8' 2"; layer (7a); well burnt; pale terracotta colour, partly darkish on obverse and reverse; rough surface; round shape; max. diameter 2.1 cm.; circular deep groove impression diameter 0.9 cm.; above, conventional floral motif upon two horizontal lines $\left(\frac{\text{𑀅𑀲𑀓𑀭}}{\text{𑀅𑀲𑀓𑀭}} \text{ or } \frac{\text{𑀅𑀲𑀓𑀭}}{\text{𑀅𑀲𑀓𑀭}} \right)$; below, one line inscription;

legend (read by Dr. B. Mukherji): *Lada* (or *ḍa*) *Tasa* or *Layasa*, i.e. (seal) of *Ladaṭa* or *Ladata*; notes on letters by Dr. B. Mukherji: *la* (Indore Copperplate of Skandagupta, Bühler, *Tafel*, IV, col. VII), *ḍa* (Mandasor Inscription of Yaśodharman, Bühler, *Tafel*, IV, col. X), *da* (Indore Copperplate of Skandagupta and Mandasor Inscription of Yaśodharman, Bühler, *Tafel*, IV, cols. VII and X), *ṭa* (inscriptions of the centuries immediately before and after A.D., Bühler, *Tafel*, II, III, IV, etc.), *ṣa* (Allāhābād Inscription of Samudragupta and Maukhari Inscriptions, etc., Bühler, *Tafel*, IV, cols. XI, XII, etc.). The seal impression and so also the seal are therefore palaeographically datable to c. fifth-sixth or seventh century A.D.; a personal sealing.

8. Complete; locus D¹ 2' 3" × 5' 1" — 8'; layer (6); well burnt; pale terracotta colour on reverse and darkish on obverse; roundish, slightly deformed; max. diameter 2.1 cm.; deep rhomboid impression (1.00 cm.) with tiny dots as border-decoration; one line inscription; legend (read by Prof. D. C. Sircar): *Harama(m)dara-de(va*)* (?); c. seventh-eighth century A.D.; a personal sealing.

9. Complete; locus A⁴ 17' 5½" × 10' 2" — 5' 5½"; layer (4); well burnt; pale terracotta colour; roundish, slightly deformed by finger pressure; finger impression present; max. length 2.00 cm.; max. breadth 1.7 cm.; oval deep impression—1.3 cm. × 1.00 cm. bearing four lines of inscription inside; legend (read by Prof. D. C. Sircar): Buddhist formula; c. seventh-eighth century A.D.; a votive sealing.

10. Complete, right side slightly damaged; locus A⁴ 6' 1" × 16' 5" — 8' 11"; layer (7a); well burnt; dark colour; roundish; max. diameter 1.7 cm.; shallow circular impression—diameter 1.1 cm.; above, motif (not clear); below, one line inscription; letters mostly obliterated; legend (read by Dr. B. Mukherji): *Vyauśakasaya*; c. seventh-eighth century A.D.; a personal sealing.

PLATE III

11. Complete; locus A⁴ 16' 4" × 9' 2" — 4' 1"; layer (4); well burnt; dark colour; irregular shape, deformed by finger pressure; finger impression present; max. length 2.2 cm.; max. breadth 1.9 cm.; rhomboid deep impression (1.00 cm.) with borderlines

meeting at corners; above, cattle-head motif upon one horizontal line; below, one line inscription; legend (read by Prof. D. C. Sircar): *Dhiruh*; c. sixth century A.D.; a personal sealing.

12. Complete; locus B² 5' 8½" × 14' 5" — 5' 1½"; layer (6); well burnt; dark colour; roundish square, deformed by finger pressure; finger impression present; max. length 1.9 cm.; max. breadth 1.8 cm.; one deep oblong impression—1.4 cm. × 0.7 cm. with inscription inside; legend (read by Prof. D. C. Sircar): *Sarabha* (?); c. seventh-eighth century A.D. (reading of Dr. B. Mukherji: *Chandramu(kha)(sh)* or (*sa*)—c. ninth-tenth century A.D.); a personal sealing.

13. Complete; locus A⁴ 10' 4" × 8' — 8' 5"; layer (7a); bright terracotta colour; well burnt; irregular shape, deformed by finger pressure; finger impression present; max. length 1.7 cm.; max. breadth 1.5 cm.; reverse rough; almost circular impression—diameter 1.2 cm.; above, flower motif (lotus) comprising six studs as petals upon one horizontal line; below, one line inscription; legend (read by Dr. B. Mukherji): *Bhramarasya*; c. seventh-eighth century A.D.; a personal sealing.

14. Fragmentary; locus A⁴ 9' 9" × 13' 1" — 8' 6"; layer (7a); well burnt; darkish colour; reverse rough with depressions; irregular (perhaps, originally oval); max. length 3.00 cm.; max. breadth 2.1 cm.; circular or oval impression; above, one deer on left upon one horizontal line; below, three lines inscription; legend (read by Dr. B. Mukherji):

- L 1. *Raktamṛtti(kāyām*)*
- L 2. *(Vi)hār(ē) (ārya)*
- L 3. *bhikshu (saṅghasya ?)*

c. seventh-eighth century A.D.; official sealing of the *Raktamṛttikā* monastery.

15. Fragmentary; locus A² 2' 10" × 11' 9" — 6' 7"; layer (7); ill burnt; dark colour; reverse rough and irregular; indeterminate shape; max. length 2.3 cm.; max. breadth 2.1 cm.; two almost circular deep impressions—diameter 1.4 cm.—impression on left broken and impression on right slightly damaged; above, a motif comprising three small vertical lines upon one small horizontal line—a conventional floral device; on left impression, motif and last two letters traceable; inscription inside right impression clear; legend (read by Prof. D. C. Sircar): *Śrī Śāntasenasya*, i.e. of Śrī Śāntasena; c. seventh-ninth century A.D.; a personal sealing.

16. Complete; locus A⁴ 7' 3" × 11' 10" — 8' 6"; layer (7a); well burnt; dark colour; irregular shape, deformed by finger pressure; finger impression present; max. length 1.6 cm.; max. breadth 1.4 cm.; oval impression; above, conventional palm-tree motif upon one horizontal line; below, one line inscription; letters obliterated; legend illegible, perhaps same as Nos. 5 and 6; c. seventh-eighth century A.D.; a personal sealing.

17. Fragmentary; locus A⁴ 10' × 6' 4" — 8' 4"; layer (7a); well burnt; pale terracotta colour on reverse and darkish on obverse; reverse surface bears three channel depressions; irregular shape; finger impression present; max. length 3.5 cm.; max. breadth 2.4 cm.; almost circular impression; few letters traceable; legend (read by Dr. B. Mukherji): *De* (or *Vi*) *ha raṇa*; c. sixth-seventh century A.D.

18. Complete; locus A⁴ 9' × 6' 1" × 8' 5"; layer (7a); well burnt; dark colour; uneven reverse with depressions; irregular shape, deformed; max. length 1.7 cm.; max. breadth 1.4 cm.; oval impression; above, floral motif (lotus ?) comprising six tiny knobs upon one horizontal line; below, one line inscription; legend (read by Prof. D. C. Sircar): *Narasi* (Dr. B. Mukherji: (*I*) *sarasa* = *Isvarasya*); c. sixth-eighth century A.D.; a personal sealing.

19. Complete; locus A⁴ 16' 10" × 16' 4" — 8'; layer (7a); well burnt; pale terracotta colour; smooth surface; reverse even with a well-cut hole; irregular shape, deformed by finger pressure; finger impression present; max. length 1.6 cm.; max. breadth 1.2 cm.; circular impression with diameter of 1.00 cm.; above, motif—not clear, perhaps, a plant; below, one line inscription; legend (read by Dr. B. Mukherji): *Guhyāchakraḥ*; c. fifth-sixth century A.D.; perhaps, a personal sealing.

PLATE IV

20 and 20A. Fragmentary; locus B² 7' 11½" × 10' 6" — 5' 9"; layer (6); well burnt; pale terracotta colour; roughly oval; max. length 3.1 cm.; max. breadth 2.4 cm.; obverse

smooth and darkish; two oblong impressions of 1.4 cm. \times 0.7 cm. and 1.5 cm. \times 0.5 cm. and one narrow channel-cut impression of 1.7 cm. \times 0.4 cm.; one line inscription in each impression; legend on first oblong impression (read by Prof. D. C. Sircar): *Guṇākara-sena*; legend on second oblong impression (read by Dr. B. Mukherji): *Sha* (= *Śrī*) *Viravainadina* (*Śrī Viravainyadatta*); legend on the narrow channel-cut impression (read by Dr. B. Mukherji): *Sāshanalathī* = *Sāśanayashthī*; c. sixth-eighth century A.D.; a personal sealing bearing three individual names.

21. Complete; locus A⁴ 17' \times 11'—3' 8"; layer (4); well burnt; pale terracotta colour; smooth surface; measurement—2.1 cm. \times 1.8 cm.; finger impression present; oval deep impression measuring 1.5 cm. \times 1.1 cm.; one line inscription in the middle faintly traceable; letters obliterated; legend illegible.

22. Complete; locus A⁵ 12' 7" \times 15' 5½"—4' 6"; layer (5); well burnt; reverse terracotta colour and obverse dark colour; elongated in shape; max. length 2.1 cm.; max. breadth 1.7 cm.; reverse flat with raised reed line; horizontal deep groove channel measuring 1.8 cm. \times 0.7 cm. with inscription inside; legend (read by Prof. D. C. Sircar). *Baladeva*; c. seventh-eighth century A.D.; a personal sealing.

23. Complete; locus A⁴ 17' \times 11'—4' 1"; layer (4); well burnt; pale terracotta colour; smooth reverse with two horizontal channel-cuts, perhaps reed marks; finger impressions present; elongated in shape; max. length 2.4 cm.; max. breadth 1.4 cm.; deep horizontal channel groove measuring 2.00 cm. \times 0.6 cm. with inscription inside; few letters traceable; legend illegible.

24. Fragmentary, lower part broken; locus A² 2' 10" \times 11' 10"—6' 11"; layer (7); ill burnt; dark colour; reverse smooth bearing finger impression; originally oval in shape; max. length 2.5 cm.; max. breadth 4.00 cm.; oval impression; above, *Dharmachakra* with dots-decoration; *chakra* flanked by two deer—deer on right faintly traceable; legend—inscribed portion broken, perhaps, a monastery official sealing.

25. Slightly damaged; locus A⁴ 9' 9" \times 13' 2"—8' 4"; layer (7a); ill burnt; partly terracotta colour and darkish colour; conical with circular inscribed surface; total length 3.1 cm.; circular stamping surface with a diameter of 2.9 cm.; letters obliterated; legend illegible; a seal.

PLATE V

26. Fragmentary; locus A² 7' 6" \times 9' 9"—7'; layer (?); well burnt; darkish on obverse and pale terracotta colour on reverse; rough reverse with wood impressions; smooth obverse; finger impressions present; irregular shape; max. length 3.5 cm.; max. breadth 2.4 cm.; two oval impressions; impression below broken, only two letters extant; impression above partly damaged; one line inscription in each impression; legend (read by Dr. B. Mukherji): (*Śrī*) *Var* (*u* ?) *navarmma*; c. ninth-tenth century A.D.; a personal sealing.

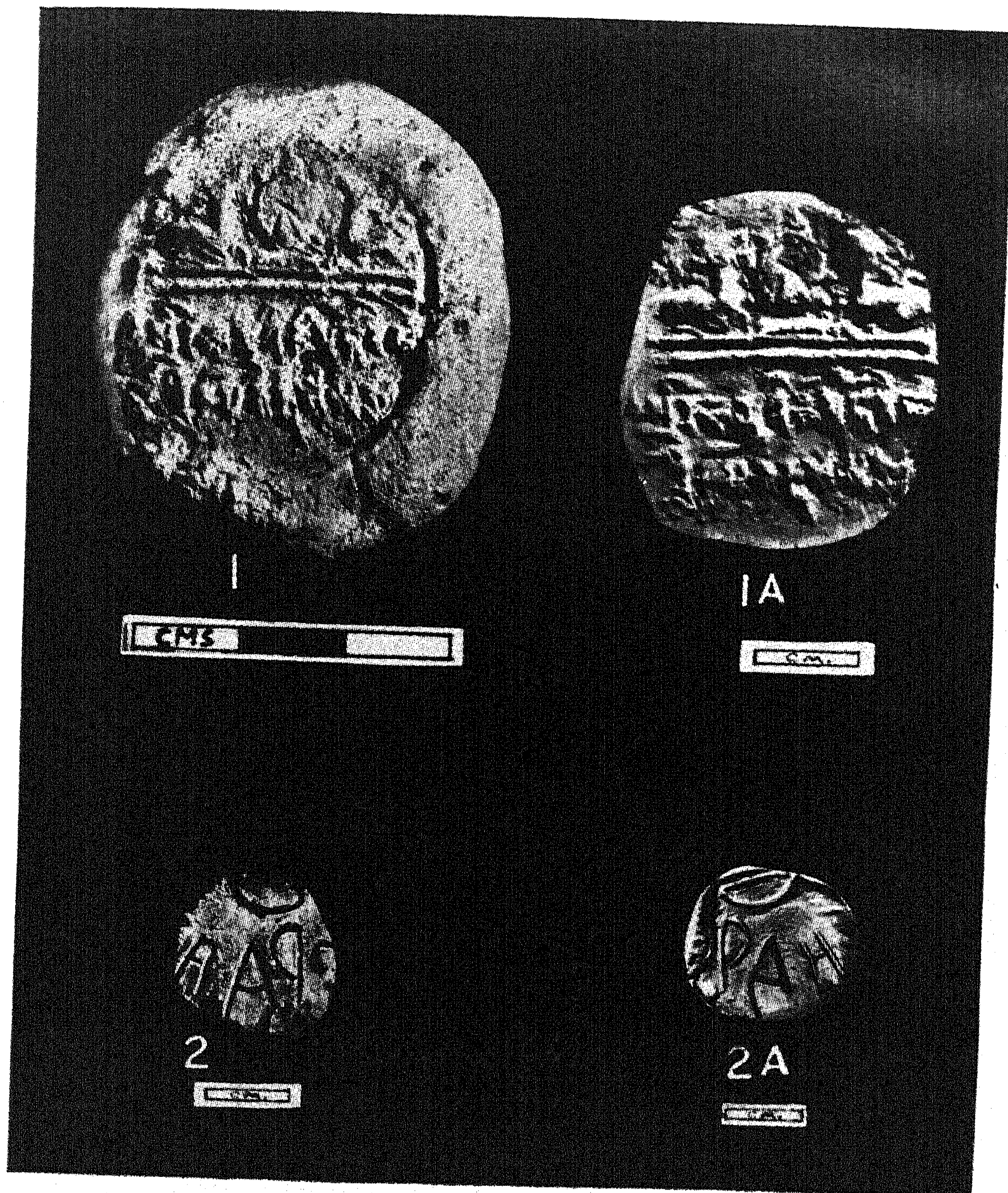
27. Fragmentary; locus A² 7' 1" \times 5' 10"—8' 9"; layer (7); ill burnt; pale terracotta colour; irregular shape; max. length 3.3 cm.; max. breadth 3.1 cm.; rough reverse with channel depressions; smooth obverse and darkish on right side; square impression measuring 1.3 cm. \times 1.3 cm. and, perhaps, another circular impression on left; above, a device with studs; below, one line inscription; legend (read by Dr. B. Mukherji): *Apradā*; c. seventh-eighth century A.D.; a personal sealing.

28. Fragmentary, lower part broken; locus A⁴ 7' 2" \times 16' 6"—8' 1"; layer (7a); well burnt; dull grey colour; finger impressions present; rough reverse and smoother obverse; irregular shape; max. length 5.5 cm.; max. breadth 2.3 cm.; oval impression with borderline; above, *Dharmachakra* on a tiered pedestal flanked by two deer—deer on left clear; oval *Dharmachakra* with one central dot as nave and eight spokes radiating from it; below, inscription of which only upper part of the first line extant; legend (read by Dr. B. Mukherji): *Koṇḍhika* (*s*) *ya* (*Kaṇḍikasya* or *Gaṇḍhikasya* ?), i.e. of *Kaṇḍika* or *Gaṇḍhika*; c. sixth-seventh century A.D.; a personal sealing.

29. Fragmentary, right side broken; locus A⁴ 9' ½" \times 17' 7"—8' 4"; layer (7a); ill burnt and fragile; darkish colour; rough reverse with three channel depressions; irregular in shape; max. length 4.5 cm.; max. breadth 3.00 cm.; oval impression; perhaps a motif above; part of one line inscription extant; legend (read by Dr. B. Mukherji): *Jātar(u)dra*; c. sixth-eighth century A.D.; a personal sealing.

PLATE VI

30. Complete; locus A⁴ 9' 9" × 13' 1" — 8' 6"; layer (7a); well burnt; terracotta colour; flat and smooth reverse; circular flat terracotta disc; diameter 2.00 cm.; deep circular impression; diameter 1.2 cm.; four lines of inscription; legend: Buddhist formula; c. sixth-eighth century A.D.; votive sealing.
31. Complete; locus A⁴ 11' 3" × 13' 1" — 4'; layer (4); well burnt; pale terracotta colour; flat small disc; flat and smooth reverse; diameter 2.9 cm.; circular impression, diameter 1.6 cm.; four lines of inscription; legend: Buddhist formula; c. sixth-eighth century A.D.; votive sealing.
32. Complete; locus C¹ 8' 7" × 13' 3" — 6'; layer (7); well burnt; flat and smooth reverse; small flat disc; diameter 2.2 cm.; flat circular impression, diameter 1.2 cm.; four lines of inscription; legend: Buddhist formula; c. seventh-eighth century A.D.; votive sealing.
33. Complete; locus A⁴ 10' 1" × 4' 9½" — 4' 10"; layer (4); well burnt; flat and smooth reverse; small flat disc; diameter 2.00 cm.; flat circular impression, diameter 1.8 cm.; four lines of inscription; legend: Buddhist formula; c. seventh-eighth century A.D.; votive sealing.
34. Complete; locus A⁴ 3' 6" × 7' 10" — 3' 10"; layer (4); well burnt; pale terracotta colour; flat and smooth reverse; small flat disc; diameter 2.3 cm.; flat circular impression, diameter 1.8 cm.; four lines of inscription; legend: Buddhist formula; c. seventh-eighth century A.D.; votive sealing.
35. Complete; locus Dy¹ 13' × 14' 4" — 5' 4½"; layer (3); well burnt; terracotta colour; flat and smooth reverse; small flat disc; diameter 2.2 cm.; flat circular impression, diameter 1.8 cm.; four lines of inscription; legend: Buddhist formula; c. seventh-eighth century A.D.; votive sealing.
36. Complete, slightly damaged; locus A⁴ 9' 1" × 8' 10" — 8' 5"; layer (7a); well burnt; dark colour; circular; diameter 2.00 cm.; flat and smooth reverse bearing finger impression; circular impression with borderline, diameter 1.4 cm.; eight-petalled floral motif with four smaller and four larger alternate petals—conventional lotus design; ornamental tablet or votive offering.
37. Complete, slightly damaged; locus A⁴ 9' 6" × 10' 5" — 8' 2"; layer (7a); well burnt; terracotta colour; small flat disc; smooth and flat reverse with finger impression; diameter 2.1 cm.; complete circular impression with borderline, diameter 1.5 cm.; four larger and four smaller alternate eight-petalled floral motif—a conventional lotus device; ornamental tablet or votive offering.
38. Complete, slightly damaged; locus A⁴ 7' 4" × 6' 4" — 8' 2"; layer (7a); well burnt; pale terracotta colour; small disc; diameter 2.1 cm.; flat and smooth reverse with finger impression; circular impression with borderline, diameter 1.6 cm.; eight-petalled floral motif with four larger and four smaller alternate petals—a conventional lotus device; ornamental tablet or votive offering.
39. Complete; locus A⁵ 14' 7½" × 14' 7" — 2' 9"; layer (3a); well burnt; small disc; diameter 2.4 cm.; flat and smooth reverse and darkish, with one well-cut horizontal shallow channel, perhaps marks of fixation; diameter 2.5 cm.; obverse darkish on right side and terracotta colour on left; circular impression, diameter 1.9 cm.; five-petalled lotus bud; ornamental tablet or votive offering.
40. Fragmentary; locus C¹ 11' 9" × 11' — 1' 9"; layer (3); well burnt; reverse pale terracotta colour and obverse surface with the motif darkish; obverse smooth and reverse uneven and concave with wood marks; irregular shape, originally oval; max. length 2.6 cm.; max. breadth 2.3 cm.; oval impression, right portion broken; motif of a cattle with upright horns engaged in chewing leaves of a plant, and below, a calf engaged in sucking; aesthetically a superb representation; perhaps, an ornamental device.
41. Complete with blurred impression; locus A⁴ 10' 5" × 7' 4" — 8' 4"; layer (7a); well burnt; dark colour; roughly roundish; max. length 1.5 cm.; max. breadth 1.3 cm.; obverse flat; impression not very clear; two horizontal lines below extant, and above, legend; legend (read by Dr. B. Mukherji): *Da (?) Yagu*; c. seventh-eighth century A.D.



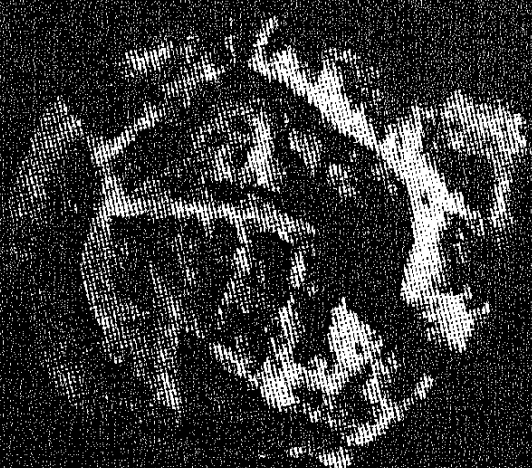
1. Inscribed sealing with *Dharmachakra*-deer motif; 1A. Its cast.
2. Inscribed seal; 2A. Its positive impression.



3



3A



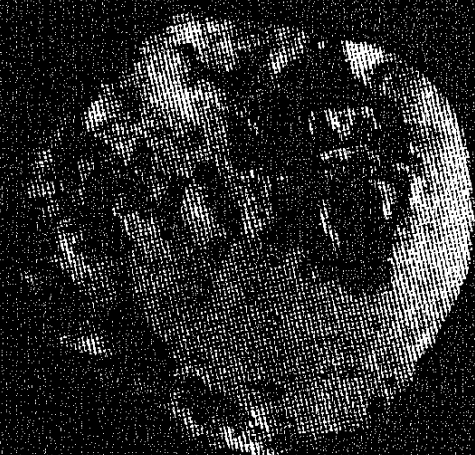
4



5



6



7



8

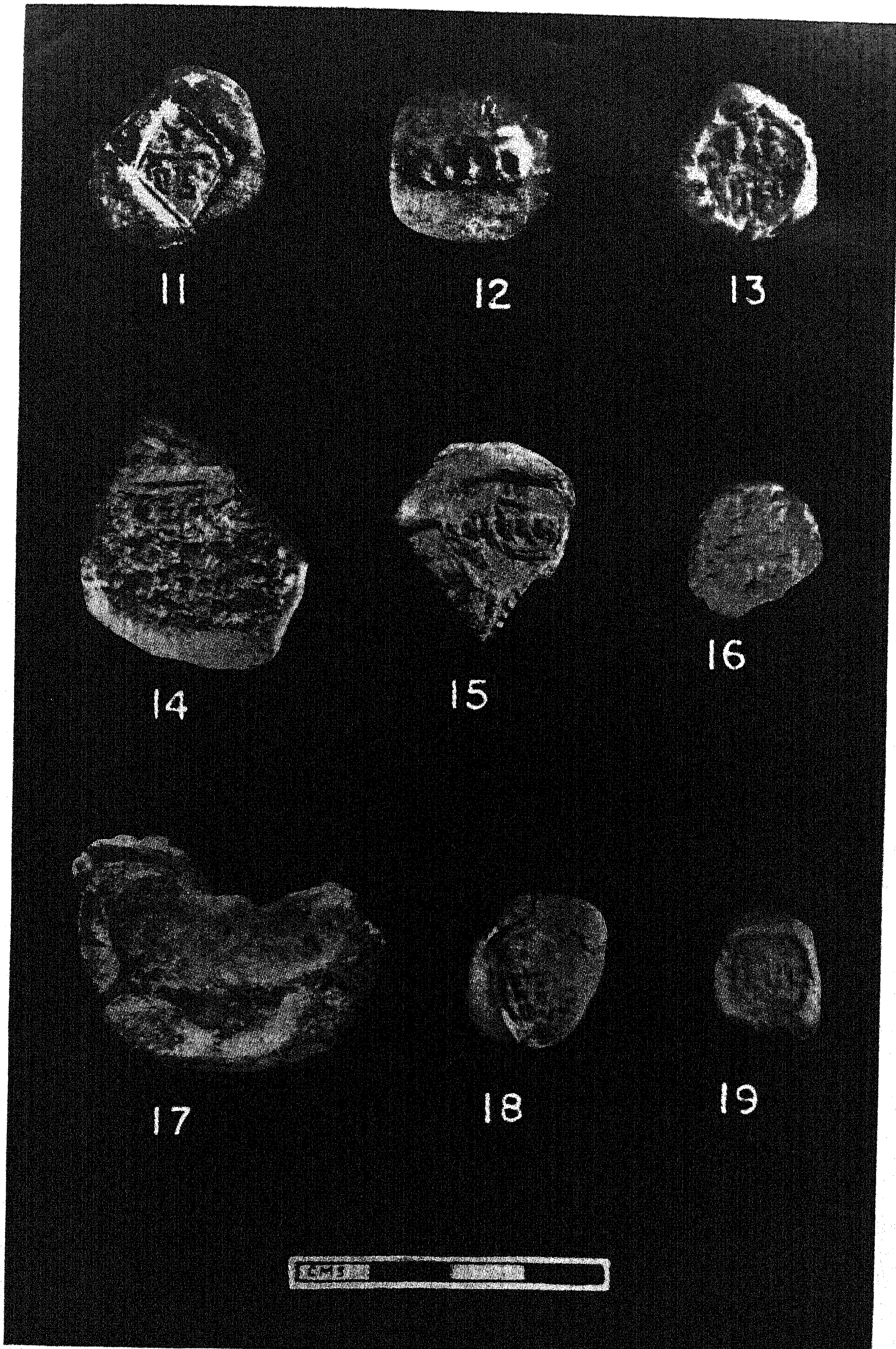


9



10



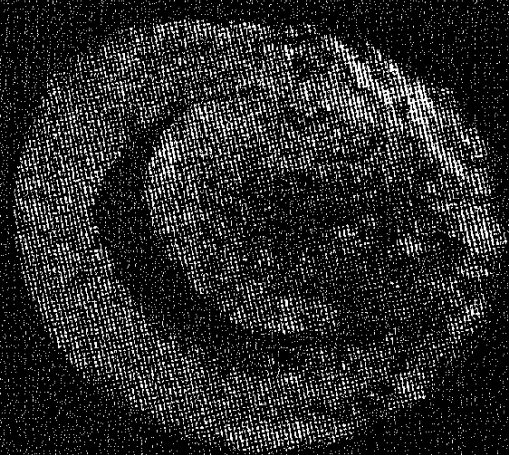




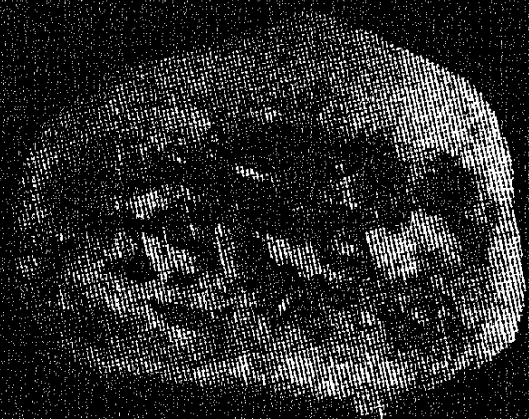
20



20A



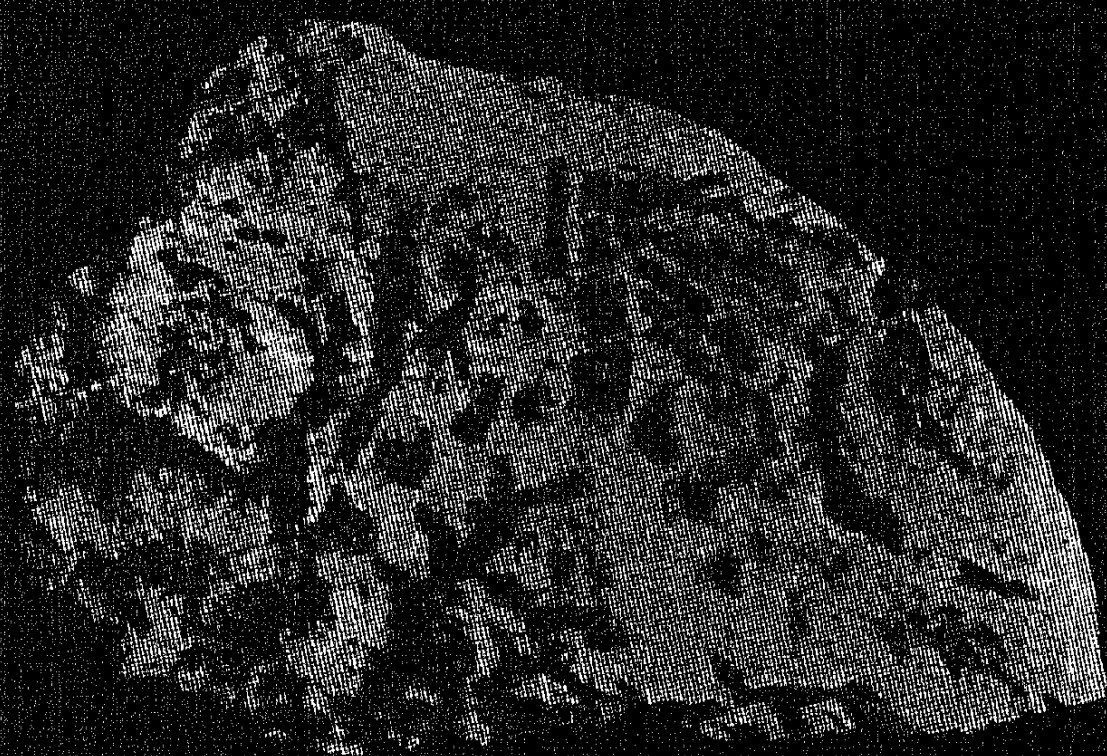
21



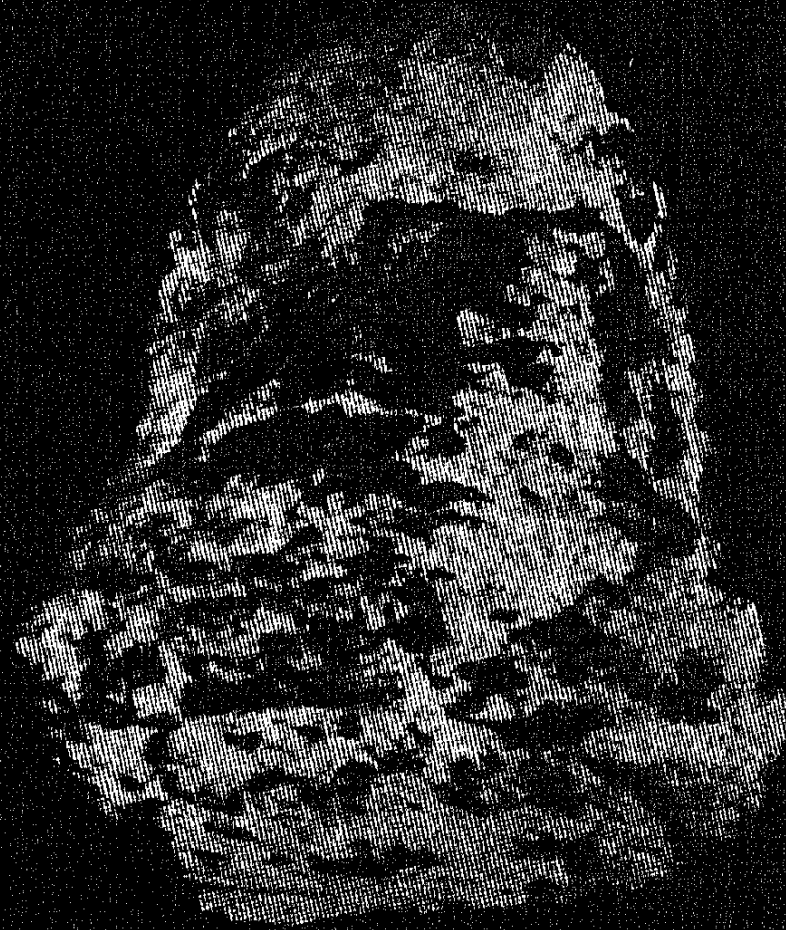
22



23

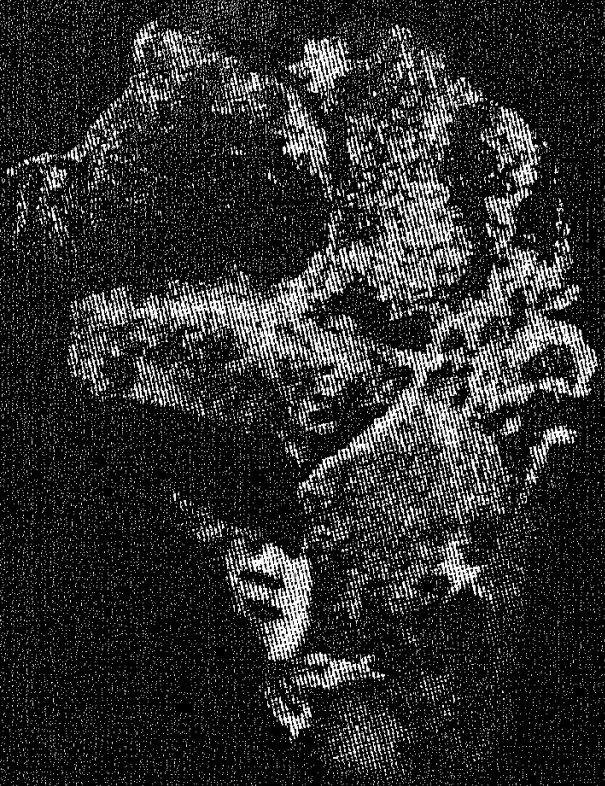


24

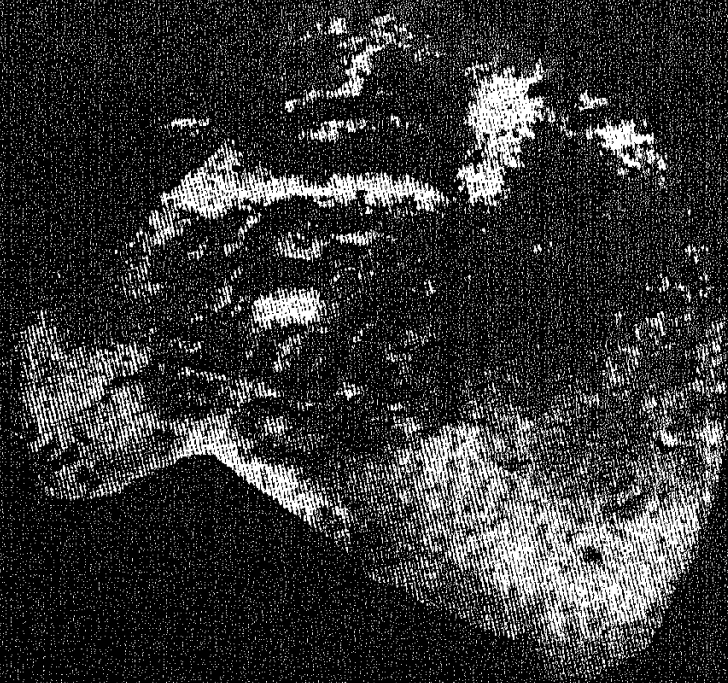


25

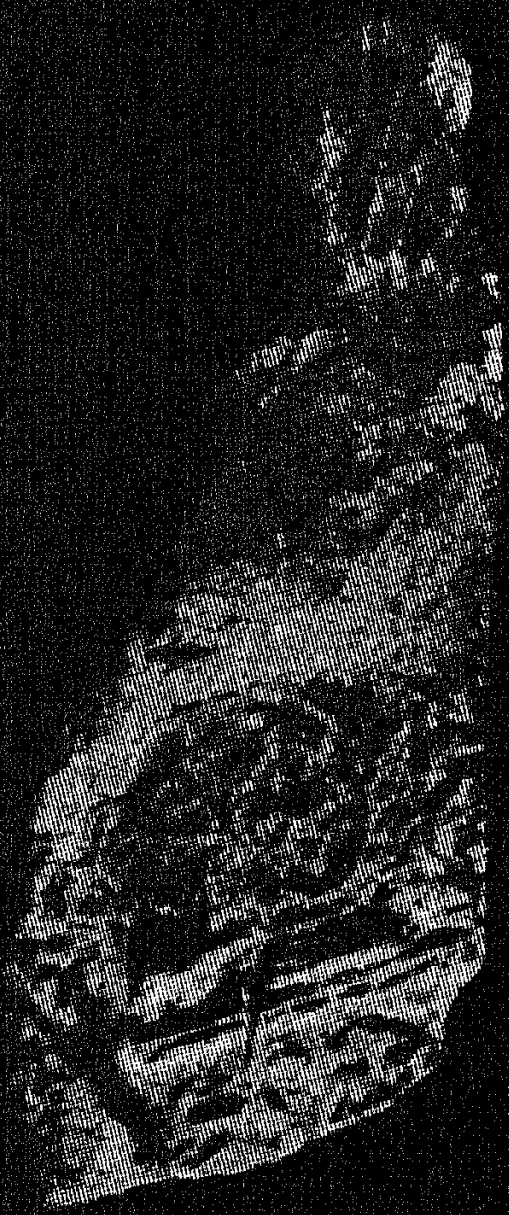




26



27



28

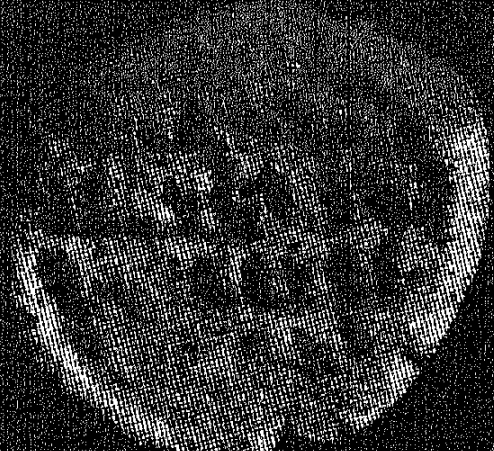


29





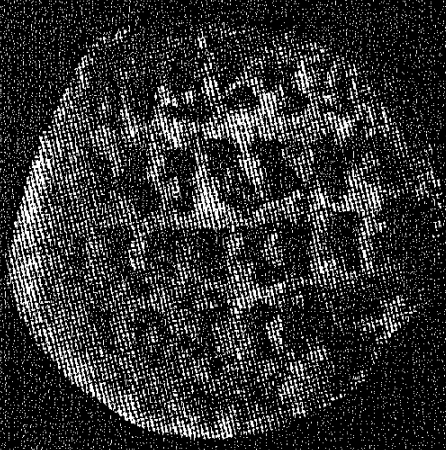
30



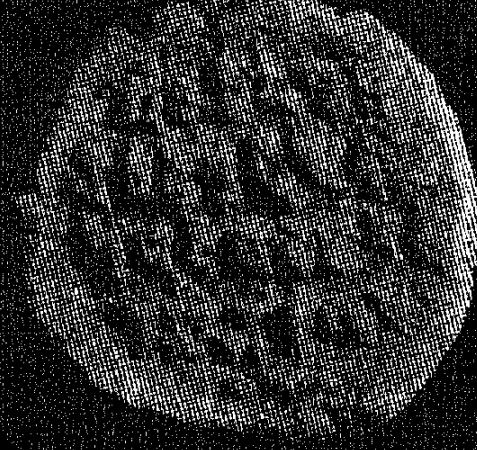
31



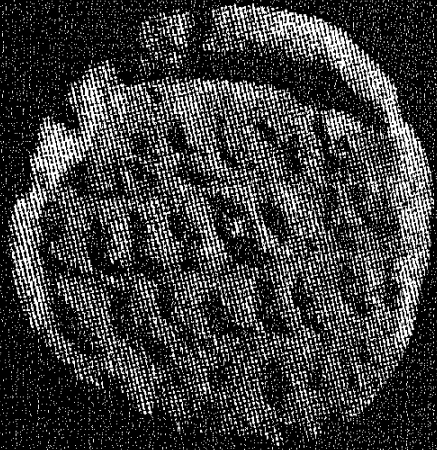
32



33



34



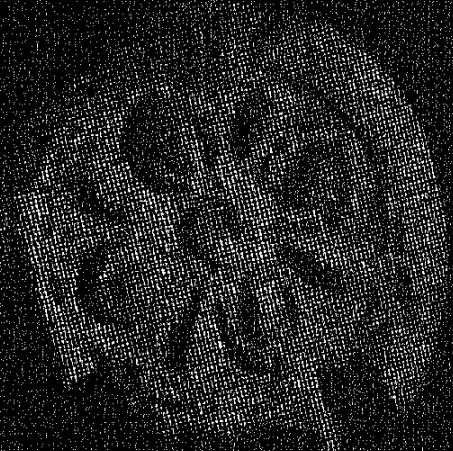
35



36



37



38



39



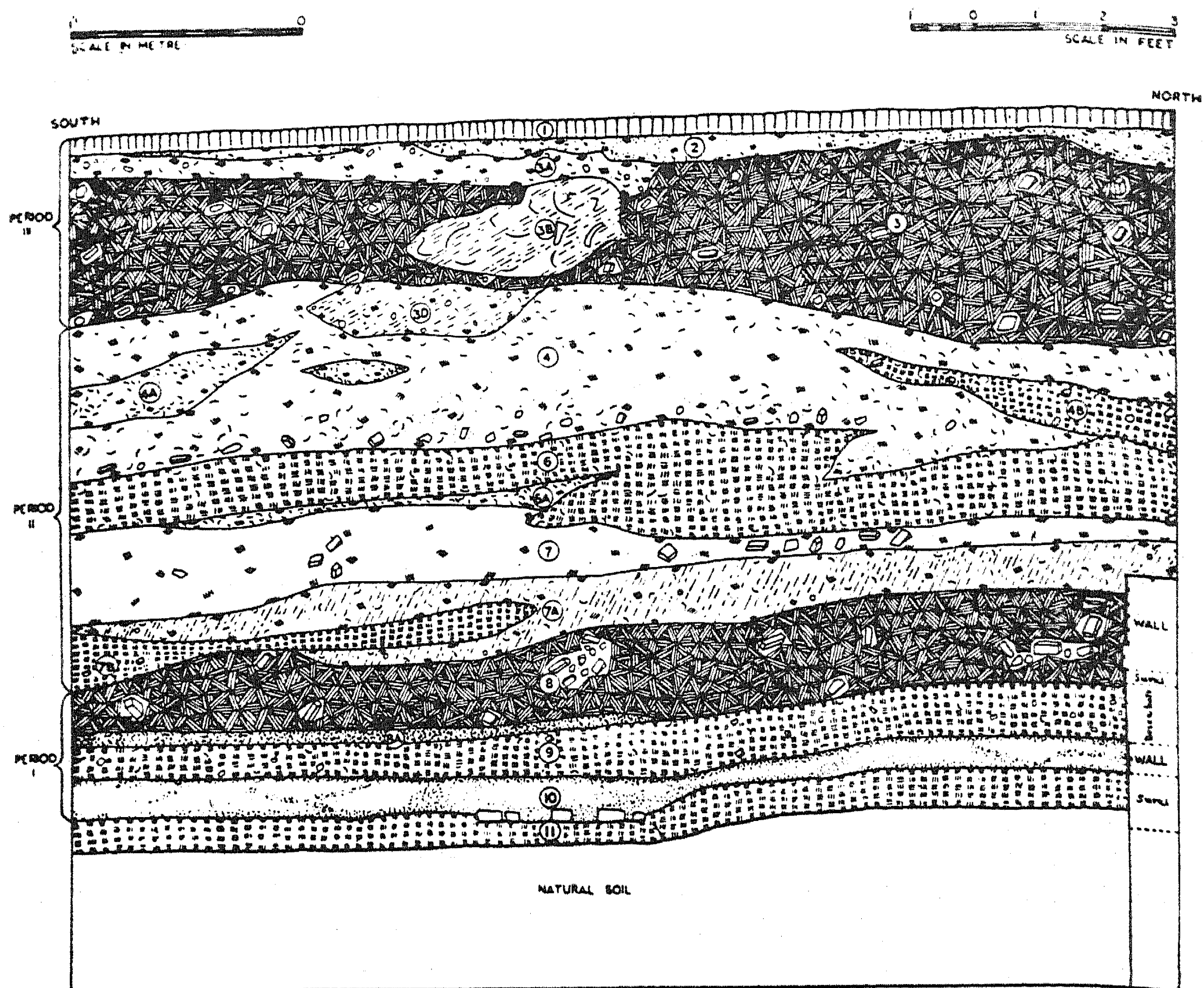
40



41



RAJBĀDĪDĀNGĀ 1961-62
TRENCH A₄ SECTION FACING WEST



DOCTRINE OF SARVĀSTIVĀDA IN THE LIGHT OF MODERN PHILOSOPHY AND PSYCHOLOGY

By ARUNA HALDAR

Traditional View of Sarvāstivāda.—All the different schools of Buddhism claim a direct support of their particular line of thought from Buddha's sayings (*Buddhavacana*) on *Anātma* ('Non-soul' theory), *Anitya* ('Non-permanent' theory) and *Aniśvaratva* ('Non-divine cause' theory). The first point may be expounded as a theory of streaming or flowing units put together and appearing like a phenomena of soul or Pudgala, which has no separate existence apart from the flowing units. The second point¹ may be understood as the doctrine of momentariness and impermanence which is inherent in everything.^{2(a)} Their third point gives the theory of *Pratītyasamutpāda* or a doctrine of dependent origination.^{2(b)} Each of these points has been interpreted by the various schools with partial or complete modification, according to their own philosophy. It is said that Buddha did not accept or deny categorically the existence or non-existence of the objects. It seems that the upholders of Sarvāstivāda claim the negative way of interpreting Buddha's saying, viz. since Buddha did not categorically deny existence of objects, objects exist. This is the basis of the idea *Dravyasat* (Realism) according to Sarvāstivāda philosophy.³

It is difficult to get a consistent view of Sarvāstivāda philosophy from the texts. In the *Kathāvatthu*, a controversy was raised by a monk of Sthaviravāda against Sarvāstivādins, i.e. the upholders of Sarvāstivāda. The point of controversy was as to the implication of the term *dharma*. According to Sthaviravāda, *dharma* is only momentary; but, according to Sarvāstivāda, it has existence in the present which is the meeting-point of the past and future phases of time. The upholders of Sarvāstivāda could not thereby clarify their position, nor did they accept their defeat.⁴ (See *Kathāvatthu*, ed. Taylor, 1.6, and Point of Controversy, pp. 375–377). Other materials for the study of Sarvāstivāda are mostly obtained from the *Kōśa*, its *bhāṣya* and the *vyākhyā*, written by Yaśōmitra. It is said that the author of the *Kōśa* had Sautrāntika leanings, and Yaśōmitra himself was a monk of the Sautrāntika school. Sarvāstivāda doctrine was criticized by Yaśōmitra in the *vyākhyā*; naturally, therefore, the doctrine of Sarvāstivāda has to be made out from the texts which are in fact critical of it.⁵

Meaning of Sarvāstivāda.—The word Sarvāstivāda may be understood as meaning a doctrine which maintains Reality, i.e. the objective existence,

¹ (a) *Anitya vata saṃskārah. Kōśa*, II, Kā. 47 (*Sphuṭārthā*), p. 106.

(b) *Vijñaptirnatirnasat saṃskṛtaṃ kṣaṇikam yataḥ. Kōśa*, IV, Kā. 2 (*Sphuṭārthā*).

² (a) *Nātmāsti skandhamātram tu karmakleśabhi saṃskṛtaṃ. Kōśa*, III, Kā. 18.

(b) *Sa pratītyasamutpāda dvādaśāṅga-strikāṇḍakaḥ. Kōśa*, III, Kā. 20.

³ (a) *Tatra yē yē Sarvāstivādinō vāhyaṃ antaraṃ ca*

Vastvābhyupagacchanti bhūtaṃ bhautikaṃ ca

Cittaṃ caittaṃ ca tān stāvāt pratibrahmaḥ. Vēdāntadarsana, 2, 2–18 (*Sārīrakabhāṣya*).

(b) *Tadastivādāt Sarvāstivādi mataḥ. Kōśa*, V, Kā. 25 (*Sphuṭārthā*).

⁴ *Kathāvatthu*, 1–6: (a) (Edited by A. C. Taylor); (b) Points of controversy, Appendix, pp. 375–377 (by Rhys Davids).

⁵ *Na cāsau pūrvamutpādāt kaścidastīti Sautrāntika matēna. Kōśa*, III, Kā. 28.

DOCTRINE OF SARVĀSTIVĀDA IN THE LIGHT OF MODERN PHILOSOPHY AND PSYCHOLOGY

By ARUNA HALDAR

Traditional View of Sarvāstivāda.—All the different schools of Buddhism claim a direct support of their particular line of thought from Buddha's sayings (*Buddhavacana*) on *Anātma* ('Non-soul' theory), *Anitya* ('Non-permanent' theory) and *Aniśvaratva* ('Non-divine cause' theory). The first point may be expounded as a theory of streaming or flowing units put together and appearing like a phenomena of soul or Pudgala, which has no separate existence apart from the flowing units. The second point¹ may be understood as the doctrine of momentariness and impermanence which is inherent in everything.^{2(a)} Their third point gives the theory of *Pratītyasamutpāda* or a doctrine of dependent origination.^{2(b)} Each of these points has been interpreted by the various schools with partial or complete modification, according to their own philosophy. It is said that Buddha did not accept or deny categorically the existence or non-existence of the objects. It seems that the upholders of Sarvāstivāda claim the negative way of interpreting Buddha's saying, viz. since Buddha did not categorically deny existence of objects, objects exist. This is the basis of the idea *Dravyasat* (Realism) according to Sarvāstivāda philosophy.³

It is difficult to get a consistent view of Sarvāstivāda philosophy from the texts. In the *Kathāvatthu*, a controversy was raised by a monk of Sthaviravāda against Sarvāstivādins, i.e. the upholders of Sarvāstivāda. The point of controversy was as to the implication of the term *dharma*. According to Sthaviravāda, *dharma* is only momentary; but, according to Sarvāstivāda, it has existence in the present which is the meeting-point of the past and future phases of time. The upholders of Sarvāstivāda could not thereby clarify their position, nor did they accept their defeat.⁴ (See *Kathāvatthu*, ed. Taylor, 1.6, and Point of Controversy, pp. 375–377). Other materials for the study of Sarvāstivāda are mostly obtained from the *Kōśa*, its *bhāṣya* and the *vyākhyā*, written by Yaśōmitra. It is said that the author of the *Kōśa* had Sautrāntika leanings, and Yaśōmitra himself was a monk of the Sautrāntika school. Sarvāstivāda doctrine was criticized by Yaśōmitra in the *vyākhyā*; naturally, therefore, the doctrine of Sarvāstivāda has to be made out from the texts which are in fact critical of it.⁵

Meaning of Sarvāstivāda.—The word Sarvāstivāda may be understood as meaning a doctrine which maintains Reality, i.e. the objective existence,

¹ (a) *Anitya vata saṃskārah. Kōśa*, II, Kā. 47 (*Sphuṭārthā*), p. 106.

(b) *Vijñaptirnagatirnasat saṃskṛtaṃ kṣaṇikam yataḥ. Kōśa*, IV, Kā. 2 (*Sphuṭārthā*).

² (a) *Nātmāsti skandhamātram tu karmakleśabhi saṃskṛtaṃ. Kōśa*, III, Kā. 18.

(b) *Sa pratītyasamutpāda dvādaśāṅga-strikāṇḍakāḥ. Kōśa*, III, Kā. 20.

³ (a) *Tatra yē yē Sarvāstivādinō vāhyam antaram ca*

Vastvābhyupagacchanti bhūtaṃ bhautikam ca

Cittam ca cittaṃ ca tān stāvāt pratibrahmaḥ. Vēdāntadarśana, 2, 2–18 (*Sārīrakabhāṣya*).

(b) *Tadastivādāt Sarvāstivādi mataḥ. Kōśa*, V, Kā. 25 (*Sphuṭārthā*).

⁴ *Kathāvatthu*, 1–6: (a) (Edited by A. C. Taylor); (b) Points of controversy, Appendix, pp. 375–377 (by Rhys Davids).

⁵ *Na cāsau pūrvamutpādāt kaścidastīti Sautrāntika matēna. Kōśa*, III, Kā. 28.

in a limited sense, of all the *dharma*s (altogether 75 in number) in the three phases of time. These are temporal (*addhvas*), matter of usage or convention (*kathāvastu*) in the name and form, without substance (*sañiḥsāra*) and of dependent origination (*savastuka*). Sarvāstivāda is also known as 'Sarvamastivāda' or 'Sabbathivāda', 'Sarvārthavāda', 'Hetuvāda', 'Muruntaka', etc. The Sarvāstivādī thinkers are distinguished from the 'analysts' or the upholders of Vibhājyavāda. The existence of objects as the meeting-ground of the past, present and future states is sought to be maintained by Sarvāstivāda, through different interpretations of its position, as follows:¹

- (1) *Bhāvanyathātvavāda* (Nature changed, but not the thing) expounded by Dharmatrāta.
- (2) *Lakṣaṇānyathātvavāda* (Character changed, but not the thing) expounded by Ghōṣaka.
- (3) *Avasthānyathātvavāda* (Mode changed, but not the thing) expounded by Vasumitra.
- (4) *Anyathānyathiktvavāda* (Relative changes) expounded by Buddhadeva.

Realistic Trend in Sarvāstivāda.—The realistic trend in Sarvāstivāda may be found in the conception of *rūpa*² or matter, the components of *rūpa* or matter, i.e. the four different kinds of the atoms or *paramāṇu*³ (*kṣiti* or earth-atom, *ap* or water-atom, *tejas* or fire-atom and *vāyu* or air-atom sticking together,⁴ in the momentary nature of the object),⁵ the lying in of atoms in bunches and the idea of *rūpa* being independent of mind⁶ and the *jīvitēndriya* or vitality.⁷ The other realistic trends may also be found in the description of the physical nature, geographical distributions of lands and seas and the ideas of space and time, change of seasons, the different timing in the antipodes and increase and decrease in the hours of day and night in relation to the movement of the sun towards the northern and southern directions, and similar ideas (*Kōśa*, III, Kā. 42–62).

Again, according to Sarvāstivāda the constituted objects are made up of 72 *dharma*s which are real for the three phases of time. Here, there is an easy temptation for a student of Buddhist philosophy to interpret this existence as 'realism'; but, in actuality, it is far from realism. The past and future objects are only inferred and not perceived, e.g. the mind

¹ (a) *Kōśa*, V, Kā. 26.

(b) *Vide* 'Sarvāstivāda Darśaner Cāriṭi Śākhāmat' (Bengali), by the present writer, *Sōmaprakāśa* (2nd year, Vol. I, p. 49, 1959).

² Na vai paramāṇurūpamekaṃ prthakbhūtaṃ asti (*Sphuṭārthā*):

(a) *Kōśa*, I, Kā. 13.

(b) Prthakbhūtaṃ asaṃghātā vasthaṃ iti arthah tadrg nāsti, Saṃghātastha nityam bhavati. *Kōśa*, I, Kā. 13 (*Sphuṭārthā*).

³ Rūpaṃ pañcēndriyaṇi arthāḥ pañca avijñaptireva ca:

(a) *Kōśa*, I, Kā. 9.

(b) Prthividhāturaptējōvāyudhātava. *Kōśa*, I, Kā. 12 (*Sphuṭārthā*).

⁴ (a) Samcita daśarūpinah. *Kōśa*, I, Kā. 35 (*Sphuṭārthā*).

Na vai paramāṇurūpamekaṃ prthagbhūtamasti. *Kōśa*, I, Kā. 13 (*Sphuṭārthā*).

(b) Paramāṇusamcaya svabhābah. *Kōśa*, I, Kā. 35 (*Sphuṭārthā*).

⁵ Kṣaṇikāni ca bhūtaṃ rūpatvāt pradīpavat. *Kōśa*, I, Kā. 12 (*Sphuṭārthā*).

⁶ Rūpinō nava bhautikah. *Kōśa*, I, Kā. 35.

Samjñāprabhāvita straya ārūpyah. *Kōśa*, I, Kā. 23 (*Sphuṭārthā*), p. 56.

⁷ (a) Tasmāt jīvitamusmanō vijñānāsraya cādhāra ucyatē. *Kōśa*, II, Kā. 45 (*Sphuṭārthā*).

(b) Upādāya rūpaṃ caturviṃśatividham. *Viśuddhimagga*, edited by D. Kosambi, 14/32–40, p. 309.

or *manōdhātu* forms the object for *manōvijñāna* or awareness of consciousness. The objects which previously existed are now the objects of mind's awareness (*manōdhātu*). Similarly, the future objects remain dormant or unmanifest in the present consciousness. From these facts, it may be suggested that, by upholding reality of the past, present and future objects, the Sarvāstivāda teacher does not mean 'realism' as understood in Western thought.¹

Limitation of Sarvāstivāda Realism.—Sarvāstivāda thus is not a realism in the Western sense of the term.

For, the realism as a philosophical doctrine puts primary emphasis on the extra-mental existence of things. In Sarvāstivāda, too, we find that *rūpa* or matter remains independent of mind and as the support of consciousness or *citta*. Even in the *ārūpya* stage *rūpa* remains in a subtle form.² For, the *samskāras* like *jīvitēndriya*, which is material (or *bhautika*), continue even in the *ārūpya* state which is non-material. Again, Sarvāstivāda has got a provision for both *rūpa* and *citta*. It may seem, from the above arguments, that the realism is one of the main tenets of Sarvāstivāda but, in actuality, the theory cannot be interpreted as realism *par excellence*. For, according to Sarvāstivāda, the continuity between the two births is actually maintained by the *samskāras* (or impressions) which are subtle and mental. It is evident, then, that Sarvāstivāda emphasized idealism as well.

Idealism in Sarvāstivāda.—So, on the other hand, the idealism can be inferred in Sarvāstivāda philosophy from the conceptions like 'Antarabhāva' (intermediary state)³ which is a subtle constitution of the *samskāra* or the impressions. The mind or *citta* includes all the associations (*smṛti*, etc.) and sensations (*viññānas*), impressions (*samskāras*) and perception (*saṃjñā*). The *pratisandhi citta* (intermediary mind seeking rebirth) gradually becomes attached to the various other complex mental functions both during the prenatal and postnatal stages. Thus, the 'birth to death' and 'death to birth' cycles are inherent in some form of impressions (*samskāras*) which are mental in nature.

The subtle existence of the dynamic continuity of a being (*bhavāṅga citta*) is found in the trance state (*samādhi*), in sleep (*suṣupti*), in senselessness (*mūrchā*) and in death (*cyuti*). It may be said that the direct bearing of this continuity is mental.⁴ It may be added that some of the faculties (or *indriyas*) are also internal (or *ādhyātmika*).⁵

Atomism and Sarvāstivāda.—According to Sarvāstivāda, the constituted matter is made up of the atoms (*paramāṇus*) which remain in a cluster. But, at the same time, it should be remembered that there are *dharmas*

¹ (a) *Realistic Tendencies in Recent Philosophy*, XXX, pp. 593-614. *A History of Philosophy*—F. Thilly (3rd impression).

(b) *The Central Conception of Buddhism* (Appendix)—Prof. T. Stcherbatsky, pp. 76-91.

(c) La Vallée Poussin's Translation of the *Kōśa*, KV, 25-27.

² (a) *Tatō vijñānamēva syāt ālamvanabhāvāt iti. Vyākhyā*—Japanese edition, p. 469.

(b) *Samjñā prabhāvitāstraya ārūpyah. Kōśa*, I, Kā. 22 (*Sphuṭārthā*).

³ *Nātmāsti skandhamātram tu karmakleśābhisamskṛtam Antarābhāvasantatya kuṣimēti pradīpavat. Kōśa*, III, Kā. 18 (*Sphuṭārthā*).

⁴ (a) *Visuddhimagga*, 14/107-115—edited by D. Kosambi:

'*Patisamdhiviññāne . . . Bhavaṅgaviññānam nāma pavattati.*'

(b) *Yadyāpi sa maraṇāvastha mandikā citta ca citta samudācārasya apaṭutvat. Kōśa*, III, Kā. 36-38 (*Sphuṭārthā*).

⁵ *Dvādaśanāmādhyaत्मikanam cakṣurādāyah pañca svanāmōktaḥ. Bhāṣya*, p. 37; *Kōśa*, I, Kā. 48.

or reals other than the atoms. Thus, the Sarvāstivāda theory of atomism is something different from Greek atomism and Nyāya-Vaiśeṣika atomism on the one hand and, on the other hand, the system differs from Leibnitz's monadism or spiritual atomism. Sarvāstivāda cannot be categorized as dualism either, as one finds in Sāṃkhya-Yōga system of dualistic pluralism (theory of one *prakṛti* and many *puruṣas*). Sarvāstivāda, as a branch of Buddhist philosophy, denounces the theory of God as the *deus ex machina* or a deistic theory which can be found both in the Nyāya-Vaiśeṣika theory and Leibnitz's monadism. Sarvāstivāda is mainly a pluralistic doctrine which maintains pluralism of the *dharma*s out of which the entire world is constituted. Thus, the *dharma*s are different from the atoms or *paramāṇus*. The *dharma*s are 75 in number and include the 11 *rūpa* items (or matter), besides *citta* (mind), 46 *caittas* (or the derivatives of mind), and 14 *citta-viprayuktas* (dissociated from the mind) and three *asamskṛtas* (or the unconstituted *dharma*s). So, in this sense, Sarvāstivāda pluralism is different from the other pluralistic doctrines, e.g. Greek atomism, Nyāya-Vaiśeṣika atomism and monadism.

Pluralism in Sarvāstivāda.—The modern theory of pluralistic universe was of course unknown at the time when the *Kōśa* was written. But, its plan of constitution of matter and mind composition reminds us of some of the ideas of modern science. These ancient thinkers had no fixed idea for any rigid concept, e.g. soul or anything. This means that these thinkers somehow rightly understood the organistic idea of the individual and his relationship to environment, both of which would change from moment to moment along with their changing relationship. Their ultimate nothingness of course is not a modern postulate; but even a modern physicist cannot possibly deny the unknown nature of noumena which is beyond the reach of the phenomenal knowledge.¹

Ideas of Hume, Mill and Sarvāstivāda.—The idea of constitution *samskṛta* (*samskāra* = 'impression') may be compared with some of the ideas of Hume, the associationist, and Mill, the positivist philosopher. According to Hume, there is no fixed object like matter or mind or soul substance. Matter, according to Hume, is a name for the streaming and flowing of units in quick succession which produces illusions of a continuous one. Mind is a name for the successive trains of associations which are too quick to be caught. The different objects are all but compositions of these innumerable and changeful units. Similarly, there is no soul or a fixed causal relation here. According to Mill, the world is a 'permanent possibility'. The term 'constituted' or *samskṛta* also to a great extent is a 'hypothetical real', a substitute for the changing pattern of the *dharma*s which exist for the past, present and future. The 'associations' can be taken to be close synonyms for the *samskāras* (the *caittas* and the *citta-viprayuktas*). In many a way, Sarvāstivāda philosophy seems to resemble to a great extent what Hume says.

Neo-realism and Sarvāstivāda.—The neo-realism as a system of thought is a later development and a meeting-point of idealism and realism both. There are at least three different expositions of neo-realism, one of which is neutralism. The *dharma*s are different from the neutral stuff which, according to neutralism, may be compounded into matter, mind, life or soul. But another exposition of neo-realism has been given by Bertrand Russel in his *Problems of Philosophy*. According to this standpoint,

¹ (a) Saṃghātastham nityam bhavati. *Kōśa*, I, Kā. 13 (*Sphuṭārthā*).

(b) Kṣaṇikānām nāsti deśāntaragamanam yatraiva utpatti-statraiva vināśah. *Kōśa*, I, Kā. 12 (*Sphuṭārthā*).

the object is a sum total of all its perspectives. Sensation is a relative process where both the sense-data and sensum are combined into a pattern of subject-object relationship. Sarvāstivāda seems to hold a similar view while explaining the different objects as the different patterns of combination of *rūpa* and *citta* (mind).¹

Spatio-temporal Nature of Things According to Sarvāstivāda.—According to another section of neo-realistic thinkers, an object's life is a meeting-point of the past, present and future. This object is a space-time or object-subject presentation in a moment; this moment is unique a presentation in eternity or infinity and is descended as an eternal present or 'specious present'.²

These views are mentioned here for a better analysis of Sarvāstivāda position which holds that an object exists for the three phases of time (past, present and future) although it is momentary. Evidently, these two ideas seem to involve an apparent contradiction. That, however, can be clarified as follows.³ It is said that the objects or the *dravyas* are momentary (*kṣanika*) although the *dharma*s or their components are reals for the past and present and future phases. But the idea of an object continuing for the three phases of time as is found in the Nyāya philosophy does not occur. The Nāiyāyikas hold that every object is characterized by origin (*utpatti*), duration (*sthiti*) and decay (*vyaya*). In Buddhism there is no provision for duration (*sthiti*). It may be inferred from all these ideas that, although the Buddhists believed in general momentariness of the objects, they had to get reconciled to the idea of the objects existing in the relative past (*atīta addhava*), the relative present (*pratyutpanna addhava*) and the relative future (*anāgata addhava*) phases of time. This idea should not be understood in the light of a continuous object for the three phases of time as the Nyāya philosophy would have it. This temporal character of the *dharma*s may be understood partially in the light or relativism of modern science.⁴

¹ (a) Viśeṣanārthaṃ prādhānyāt vahudharmāgrasaṃgrahāt
Ēkamāyatanam rūpamēkam dharmākhyamucyate. *Kōśa*, I, Kā. 24.

(b) Tāni vāṅ nāma vā iti eṣam
Rūpasamskārasaṃgraha. *Kōśa*, I, Kā. 25.

² (a) Asya hi atītādilakṣaṇavṛttilabhāpekṣōvyāvahāra iti
Pūrvakadbhedāh. *Pañjikā*, p. 504.

(b) *Space, Time and Deity*—Alexander.

(c) La Vallée Poussin's *L'Abhidharmakōśa*, Chapter II, p. 232.

³ (a) Ta evādhva kathāvastu saniḥsārah savastukah. *Kōśa*, I, Kā. 7.

(b) Nityeṣu nityamēkatvaṃ anityaḥ nityamṣiyatē
Dvītvādayaḥ parārdhānta apekṣābuddhiḥ jā mataḥ
Anēkāśraya paryāpta ētē tu parikīrtitaḥ
Apekṣābuddhināśācca nāśastēṣāṃ nirūpitaḥ. *Bhāṣāpariccheda*, p. 420,

edited by P. Sastri.

(c) Est-il, Jamais arrive aux Abhidharmika de donner L'activite comme paseeoufuture, L'element futur quand L'activite est nee est nomme 'present'; l'element present, quand, L'activite a pris fin, est nomme 'passe'. L'objection elst-elle justifiec? Te ne dispas que le (passeet le futur auent aussi activite: On ne pent donc me critiquer (en disant que, d' activite eest donc, que l'activite existe apres existence? car l'activite existe seulement dans le present. *Instant et Cause*, p. 267 (Par L. Silburn).

(d) Pour le Sautrantika an contraire les elements passes et futurs we sout pass des, conditionne (Samskāra) quisquiti n' ont ni debut in fin caracteres due conditionne et c'est pour cette raison quils n'existent past'. *M.C.B.*, V, p. 122 (Par L. Silburn).

(e) Les elements passes et futurs sont egalelement conditionnes (Samskrta):

Le Sarvāstivāda in donne ici an terme Samskara une signification quil-tillement efficiente et, par consequente presente quil est encore pour le sautrāntika—car en ce le passi ne saurait itre un saṃskāra. *Instant et Cause*, p. 271 (Par L. Silburn).

⁴ Asya pūrvaparāpekṣō vyāvahārah, yasya pūrvameva asti nāparah so'nagataḥ, yasya pūrvamasti' aparaṃca savartamānaḥ, yasya paramēva na pūrvam s'ōtitaḥ. *Pañjikā*, p. 504.

says that Buddha's arguments against the determinism of Ājīvika sects and denial of the existence of the past lead to the inference that Buddha admitted the existence of the reals.¹

Buddha maintained that all things are reducible to *dharmas* or subtle existents or *saṃskāra samūha* (mass of impressions).² The term *dharma* has been used in a varied sense. The meaning of the *dharmas* is, therefore, to be taken from their functional applications, and from application in different contexts. Realism, as understood in Western philosophy, cannot possibly be ascribed to the doctrinal significance of Sarvāstivāda.

Classification of Dharma.—All *dharmas* are divided into two categories, viz. 'pure' (*anāsrava*) and 'impure' (*sāsrava*).

Pure *dharmas* are the three unconstituted (*asaṃskṛta*) *dharmas*. The three unconstituted *dharmas* are:

- (a) *Ākāśa* or infinite space (*anāvṛti*).³
- (b) *Pratisaṃkhyā nirōdha* or cessation of becoming by knowledge which destroys impurities one by one.⁴
- (c) *Apratisaṃkhyā nirōdha* or cessation of becoming (of impurities) by means other than knowledge (*pratisaṃkhyā*) or by means of mystic experiences reached through elaborate ethical and esoteric activities (*sādhana*).

All constituted objects (*saṃskṛta*), excepting *mārgasatya* which is regarded as pure, are impure (*sāsrava*). These constitute the field of impurities. The phenomenal world is made up of 72 items of *saṃskṛta* (constituted) *dharma*. The real nature of the *dharmas* in their proper perspectives is determined by *Abhidharma*.⁵

The *saṃskṛta-dharmas* or *skandhas* (compositions of constituents) are pure by nature. They become impure when they form a constituted being (*pudgala*), when *skandhas* are qualified as *upādāna-skandha*, which are always impure and are sources of conflict (*saraṇa*). They are causes of suffering and subject to suffering.⁶ They are equated with the world of existence (*bhava*), bases of wrong views (*dr̥ṣṭiś'hānam*) and birth (*janma*).

SĀSRAVA-DHARMAS ACCORDING TO ABHIDHARMAKŌŚĀ

The 72 *saṃskṛta-dharmas* (constituted) are classified under four different categories, viz.

- (a) *Rūpa* (matter): 11 items.
- (b) *Citta* (mind): one item.
- (c) *Caitta*, *cittasaṃprayukta* (mind-derivatives, mind-associated): 46 items.
- (d) *Citta-viprayukta* (mind-dissociated): 14 items.

¹ (a) *The Central Conception of Buddhism*, by T. Stcherbatsky, p. 4.

(b) *Samyuktāgama*, XIII, p. 16 (Megovern).

(c) *Buddhist Psychology*, by Rhys Davids, p. 41.

(d) *Visuddhimagga*, Chap. XIV.

² (a) *Sāsravānāsravā dharmāḥ saṃskṛtā mārgavarjitāḥ. Kōśa*, I, Kā. 4; *Bhāṣya*, p. 3.

(b) *Ibid.*, I(a).

³ *Tatrākāśaṃ anāvṛti. Kōśa*, I, Kā. 5.

⁴ *Pratisaṃkhyā nirōdhō yō viṣamyōgaḥ pr̥thak pr̥thak. Kōśa*, I, Kā. 6.

⁵ *Tasya arthatō asmin samanupraveśāt Sa cāśraya asya iti Abhidharmakōśaṃ. Kōśa*, I, Kā. 2.

⁶ *Yē sāsravā upādānaskandhāstē saraṇā api Dukkhaṃ samudayo lōkō, dr̥ṣṭiś'hānam bhāvaśca te. Kōśa*, I, Kā. 8.

It is also said in the *Kōśa* that all *dharma*s mentioned above can be classified within *rūpa-skandha* (matter-formation/composition), *mana-āyatana* (mind-base) and *dharma-dhātu* (non-sensuous element).¹ This classification, however, has been held by W. M. McGovern, a Western scholar of Buddhism, as subjective classification.² *Dharma*s mentioned above are also classified differently as *dharma-skandha* (mass of reals) and *dharma-āyatana-dharma-dhātu* (non-sensuous real-base and non-sensuous element).³ The last two classifications indicate that the Buddhists understood *dharma* as some abstract potentials or hypothetical 'reals' which underlie every other concrete compositions and manifest forms.

DIFFERENT FORM OF APPLICATIONS OF *DHARMA*

The 72 *dharma*s (reals) mentioned above are grouped as either *skandha* (mass or composition) or *āyatana* (base or extent) or *dhātu* (element-potential). The *dharma*s are not understood by all persons in the same way, and so they are described differently by different persons, according to their inclinations.

The individuals vary in their power of grasping (*mōha*), capacity (*indriya*) and interest (*ruci*). Thus, the individuals are broadly classified into the above three classes. (a) Individuals, differing in knowability, may be of three different types.⁴ Some of these develop a confused knowledge about a false and spiritual self (*ātmā*), which is nothing but a composition of mind-derivatives (*cāitta*). Some others may be led to think in a confused manner that everything is matter (*rūpa*). The third type of individuals might develop a confusion with regard to both mind (*citta*) and matter (*rūpa*). The first group of individuals are to be instructed in terms of *skandha* (composition); the second group in terms of *āyatana* (base or extent); the third group in terms of *dhātu* (element-potential). (b) Again, individuals differ from one another in the capacity of their faculties. Thus, individuals may be classified into three more groups. Some of these are of sharp (*tīkṣṇa*) sensibility; some are of medium (*madhya*) sensibility; and some are of dull or low (*mṛdu*) sensibility. The first, second and the third groups of individuals of group (b) receive instructions about the *dharma*s in terms of *skandha* (composition), *āyatana* (base or extent) and *dhātu* (element-potential) respectively. (c) Lastly, individuals vary in their interest or taste. Thus, individuals may develop a taste for either brief (*saṃkṣipta*) or medium (*madhya*) or elaborate (*vistāra*) instructions. Accordingly, these individuals varied nature of brief, medium and elaborate taste are suitably instructed in terms of *skandha* (composition), *āyatana* (base or extent) and *dhātu* (element-potential) respectively.⁵

THE *SKANDHAS*

Skandhas as described in the Kōśa.—The *skandhas* may be translated as composition, collection or formation. The *skandha* has been interpreted

¹ Rūpaskandhēna, mana āyatanēna dharmadhātunā ca Sarvadharmāṇāṃ saṃgraha vōddhavyah. *Bhāṣya*, p. 12; *Kōśa*, I, Kā. 18.

² *Manual of Buddhist Philosophy*, by W. McGovern, pp. 103-128.

³ (a) Dharmaskandha sahasrāṇi. *Kōśa*, I, Kā. 25.

(b) Dharmāyatanadhātvākhyāḥ saha avijñāpti asaṃskṛtaiḥ. *Kōśa*, I, Kā. 16.

⁴ Tasyāyadvaragotrārthāḥ skandhāyatanādhātavah Mōhēndriyarucitraidhāt tisrah skandhadideśanāḥ. *Kōśa*, I, Kā. 20.

⁵ (a) Carita pratipakṣastu dharmaskandha anuvarṇitāḥ. *Kōśa*, I, Kā. 26.

(b) *Ibid.* (42).

in the *Kōśa*¹ as *rāśī* (or collection).² There are five classes of *skandhas*. All the 72 *dharma*s can be grasped under these five classes of *skandha*. It is said that all the *saṃskṛta-dharma*s (or the constituted elements) are the constituted forms of the five *skandhas*.³ These *skandhas* are described as *addhava* (or having existence in past, present and future phases of time), *kathāvastu* (conventionally significant)⁴ and *saṃhāsa* (changing environment) and *savastuka* (caused).

Different Classes of Skandha.—There are five *skandhas*, viz.

- (1) *Rūpa-skandha* (the matter-formation/composition).
- (2) *Vēdanā* (the feeling-formation/composition).
- (3) *Samjñā* (the perception-formation/composition).
- (4) *Vijñāna* (the consciousness-formation/composition).
- (5) *Samskāra* (the impression-formation/composition).

The order of presentation of the *skandhas* is psychologically significant. The *rūpa* or matter being the manifest (*āudārika*) comes first; the *vedanā* or associated feeling tone comes next. The *saṃjñā* or perception which is more definite occurs then. Next appears the determined or perceived consciousness of *vijñāna* in general. Then the *vijñānas* or consciousness as such are pushed into *saṃskāras* or mass-apperception or root-impressions.

RŪPA-SKANDHA (OR MATTER-FORMATION)

Rūpa or Matter Explained.—The *rūpa-skandha* or matter-formation includes five sense-organs, their five respective fields and *avijñapti* (non-mentaux). These five sense-organs are the seats of five respective *vijñānas* (consciousness). *Rūpa* thus is the composition or formation of all matter including both the concrete or manifest (*prasāda rūpa*) and subtle (*sūkṣma*) items.

Rūpa is classified into colour and form and their different variations. These *rūpa* items are long, short, round, circular, high, low, wide and very wide. The *rūpa* items of colours are red, blue, yellow, white and other colours like smoke, dust, mist, shadow, sunlight and darkness. *Rūpa* also consists of eight kinds of sounds which may be agreeable and not

¹ Triprakāra kila santivānām mohah. Kēcit caṭṭeṣu Samudhaḥ piṇḍātmgrahanataḥ. Kēcit rūpa ēva. Kēcit rūpa-cittayōh. Indriyāṇi api trividhāṇi Tikṣṇamadhya-mṛdvindriyatvāt. Rucirapi Trividhā saṃkṣipta madhya vistaragrantha rucitvāt. Tēṣāṃ yathākramam tisrah Skandhāyatana dhātu deśanā iti. *Kōśa*, I, Kā. 20; *Bhāṣya*, p. 14.

² (a) Samētya saṃbhūya pratyayaḥ kṛta. *Kōśa*, I, Kā. 7; *Bhāṣya*, p. 4.

(b) Tē punah saṃskṛta dharma rūpādi skandha pañcakam. *Kōśa*, I, Kā. 7.

³ (a) Rūpa-skandhaḥ, vēdanā-skandhaḥ, saṃjñā-skandhaḥ Samskāra-skandhaḥ, vijñāna-skandhāḥscētē saṃskṛta Dharmah. *Kōśa*, I, Kā. 7; *Bhāṣya*, p. 5.

(b) Dans cette hypothese comme le monade ne peut avoir la qualite detre un amas ne dites pas quo skandha signify 'amas'.

D'apres rene autre opinion (Vibhāṣā, 79), Skandha signifie ce qui porte le fardeau a savoir son effect; ou bien skandha signifie

partie section (Pracchēda Avadhi). *L'Abhidharmakosa*—Par Louis De La Vallée Poussin, Chapter Premier, p. 38.

⁴ Ta ēva saṃskṛta gatagacchadgāmisyād bhāvād addhvānah. *Kōśa*, I, Kā. 7; *Bhāṣya*, p. 5.

agreeable. *Rūpa* includes six kinds of taste items, viz. sweet, sour, saline, bitter, astringent and pungent. The *rūpa* items recognized as smell are of four kinds—good, bad, strong and mild. The *rūpa* objects known as *sparṣṭavya* are of four kinds. These are ultimate properties of water, air, fire and earth; and seven kinds of constituted objects which are smoothness, roughness, heaviness, lightness, coldness, hunger and thirst. The last item of *rūpa* is *avijñapti* (non-mentaux or non-information) which originates in *rūpa* and is devoid of consciousness.¹

The four ultimate properties—water, air, fire and earth—are characterized by collection (*saṃgraha*), motion (*vyuhana*), maturation (*pāka*) and capacity to bear (*dhṛti*). Their speciality is indicated by humidity, motion, heat and hardness in case of water, air, fire and earth respectively.²

The five faculties or sense-organs, the faculties of male and female organs and the faculty of vitality are the different constituted forms of *rūpa* or matter.

Thus, *rūpa-skandha* or matter in a wider sense indicates all possible pictures of combinations of what can be recognized as external to 'mind' or *citta*. *Rūpa* in the limited sense denotes all matter items which are visible. *Rūpa* or matter, noted from the viewpoint of the Buddhists, however, may be mainly recognized as something resistible (*sapratigha*) or obstructing in nature. *Rūpa* is also described as the support of mind or *citta* (*ālamvāna*), both in manifest and subtle forms.

It may be pointed out that only the portions of *rūpa-skandha* relevant to its examination from the point of view of modern psychology have been given here. An elaborate discussion of *rūpa-skandha* is not possible within the limited space. Even then, it has to be said that it is difficult to maintain a clear-cut separation of the *rūpa* or matter and *citta* or mind. For, it is evident from the treatment of Buddhist psychology that matter (*rūpa*) and mind (*citta*) are inseparably harnessed together in both knowing and being. For the present, however, relatively more emphasis is being put on the other *skandhas* which mainly deal with internal facts of mind's functioning.

The *skandhas* other than *rūpa* are feeling (*vēdanā*), perception (*saṃjñā*), consciousness (*viññāna*) and impression (*saṃskāra*), which all call for further examination and analysis. These four are recognized as internal; for, all these function in and through the mind (*citta*). Feeling, perception and impression are together recognized as non-sensuous base (*dharma-āyatana*) and non-sensuous element (*dharma-dhātu*). Consciousness is recognized as mind base (*mana-āyatana*) and consists of seven kinds of mind-elements including *manōdhātu*.³

Co-operation of the Skandhas.—*Dharmas* or the 'hypothetical reals' are combined into the five forms of compositions (*skandhas*). These *dharmas* then build up all the knowing phenomena or the personality and the external world. Thus, *dharmas* represent the subject and object of knowledge and also the internality and externality of nature. *Dharmas* are recognizable as metaphysical entities and epistemological functioning. The *Dharmas* are to be grouped then in relation to their relative functions and not according to any rigid picture of matter and mind. For, the same

¹ Vikṣiptacittakasyāpi yō anubandha śubhāsubbāh
Mahābhūtāni upādaya sa hi avijñāptirucyate. *Kōśa*, I, Kā. 11.

² Bhūtāni pṛthivīdhāturaṭṭejōvāyudhātavaḥ
Dhṛtyādi karmasamsiddhāḥ kharasnehaṣṇāteranāḥ. *Kōśa*, I, Kā. 12.

³ Viññānaṃ prativijñāptiḥ mana āyatanaṃ ca tat
Dhātavaḥ sapta ca matāḥ ṣaḍ vijñānāni athō manāḥ. *Kōśa*, I, Kā. 16.

object may be represented as either a matter-form (*rūpa*) or a mind-form (*nāma*) or both in their relative prominence.¹

Co-operation of the *skandhas* may be found, for example, in the expressions like *rūpa-samjñā* (matter-perception) or *indriya* (sense-faculty). *Rūpa-samjñā* (or image) is a matter-mind composite. Some *indriyas* (sense-faculty), although constituted by the ultimate properties (*bhautika*), are supposed to be internal (*ādhyātmika*). There are ideas like 'support of consciousness' (*ālamvana*) which are relatively more objective than 'concept' (*prajñāpti*). Concept (*prajñāpti*) is relatively more subjective than the former and is of mental make-up. Thus, it may be stated that experience of a phenomenon consists of both matter (*rūpa*) and mind (*citta* or *nāma*), or it may be said that phenomenal object consists of a dialectically-arranged pattern of both external and internal objects.²

It has been stated that all the *skandhas* other than *rūpa-skandha* (matter-composition) work in and through the *citta* or mind only. The physical basis of the personality formation (of *rāśipudgala*) is the *rūpa* or matter and its mental elements are represented by four other *skandhas*. Thus, another briefer classification has been suggested in the *Kōśa* (1.25) for the *skandhas*. It is said that all the constituted may be classified under two classes of *skandhas*, viz. *nāma* and *rūpa*. The entire physical world is represented by *rūpa* or matter and *nāma* which is mental in nature. Name and form together produce the compositions of all possible knowing and being.

Ordinarily, the universe and the individual may be represented as constituted by the external and internal, i.e. matter-elements and mind-elements. Evidently, these ancient thinkers did not think anything as exceptional, while thinking in terms of *nāma* or *rūpa*. The concept of *rāśipudgala* or personality-formation as constituted by both *rūpa* (matter) and *citta* (mind) reminds us of a parallel conception of personality as a mind-body complex from the point of view of modern psychology. A particular class of *samskāras* (*cāitta*, for example) may be represented as all the objective states of cognition, emotion and volition. On the other hand, the other class of *samskāras* (dissociated from mind) may be compared with the world of habitual actions, dynamic and unconscious nature and learning by conditioning. In a sense, *samskāras* build up the entire psycho-physiological nature of the personality. The *Vijñāna-skandha*, on the other hand, includes the internal faculties and the sensations produced therein. Thus, *samjñā-skandha*, *vēdanā-skandha*, *vijñāna-skandha* and *samskāra-skandha* together constitute the psycho-physiological aspects of the personality.

All these ideas indicate that the ancient thinkers of Sarvāstivāda Buddhism tried to approach the human being as a whole and tried to follow the birth, growth and decay of the same represented in terms of the five *skandhas* or five different compositions. These thinkers thought that the *rūpa-skandha* consists of all of the sense-data; the *samjñā-skandha* determines the nature of *dharma* (or real); *vēdanā* includes past, present and future feeling. The *samskāra-skandha* includes 46 subjective, specific states of mind-derivations (or *cāittas*) and 14 generic and objective attitudes (or *citta-viprayuktas*). The *vijñāna-skandha* includes the different mental functions, viz. *citta* (mind), *manas* (reason), *vijñāna* (consciousness), etc., and all the special types of consciousness.

¹ Tāni vaṅgānāma va iti eṣaṃ rūpa saṃskāra saṃgrahaḥ. *Kōśa*, I, Kā. 25.

² Ekamāyatanam rūpamēkaṃ dharmākhyam ucyatē. *Kōśa*, I, Kā. 24.

The above order of presentation of the *skandhas*, however, reminds us of some of the theories of modern psychology. Matter forms the object of consciousness. Contact of the sense-organ with the object results in instantaneous stimulation or reaction on the part of the receiving organs. This process is accompanied by some feeling-tone which is associated with every organic reaction. A definite and interpreted reaction is known as perception of a particular and special object. Perception may be followed by a sense of awareness or consciousness. Then this entire process is withdrawn from the present consciousness and remains stored in the background of association or apperception. Thus, the Buddhist conceptions of *rūpa* may be understood in the light of object of consciousness, e.g. *vēdanā* as the feeling-tone, *saṃjñā* as perception, *viññāna* as consciousness and *samskāra* as the impressions or associations.

REVIEWS OF BOOKS

TOTEMISM IN INDIA, 1965. By John V. Ferreira. Pp. 1-304. Oxford University Press. Price Rs.17.50.

The author deals with the nature of totemism prevalent among the Munda-speaking tribes, the Bhil, the Gondid of Eickstedt, the Andamanese and among certain tribes of Assam, and along with that he has tried to interpret their significance and origin. He submitted this thesis in the University of Vienna for the Ph.D. degree. The author has tried his best to give the résumé of the previous workers who had conducted researches on totemism. He has also tried to throw new light on this subject which is very interesting and significant. He remarked that the problem of defining totemism is rendered difficult because the totemic phenomenon emerges in two upsurges on the totemic continuum and because the variability of totemic complexes and system is greater than was earlier believed.

In this connection he quoted the definitions stated by Frazer, Goldenweiser, Schmidt, Roheim, Radcliffe-Brown and Hackel, etc. He has remarked that in the analysis of totemism in India, the following terms may be followed, viz. Proto-totemism, Quasi-totemism, Apical group totemism, Formal Social totemism and Totemism in Decline. Further, he added that Russell's theorizing reveals the antiquated character of its fundamental points, even at the first glance. The precedence of the clan over the family and of matriliney over patriliney are beliefs which belong to the long-outmoded evolutionary phase of cultural studies. His view that the totems were derived from animals and plants from which the clan members got their sustenance is not at best a simplification of the problem of totemic origins by a reduction of its causal side to a single material relationship.

He has also commented on and referred to the works on totemism by Graebner, Przyluski, Roy, Iyer, Hutton, Hoffmann, Mazumdar, Niggemeyer and Schmidt. He remarked that Niggemeyer failed to give due recognition to the relative variability of totemic manifestation, and further he added that Niggemeyer's description or definition falls short in that it too exclusively identifies totemism as a group phenomenon and connects it too emphatically with group exogamy.

He remarked that the most basic factor from which totemism took its psychological rise is the finitude of human nature and the partly conscious, partly unconscious urges or impulses towards complementarity and dependence which sprang from it. Group totemism grows chiefly through the process of convergence, which includes different types of diffusion and a certain degree of independent creation and development. Indian totemism appears in essential to have arisen and developed in India. Clan totemism has probably had two centres of emergence which were more or less independent of each other. The quasi-totemism of the Khasi and the Garo owes its origin to stimuli or elements inherent in the area itself and borrowed from beyond that area. The primary quasi-totemism of the extreme north-east is not as old as the patrilineal totemism elsewhere in India. From the point of view of age, intensity and affiliation the totemism of the north-eastern area breaks up into two parts—(i) the apical clan totemism of Birhor and perhaps of the Asur also, (ii) the formal social totemism of certain other tribes in the area. The formal social

totemism is characterized by totem names, totem taboos, clan exogamy and the other attenuated elements occurring sporadically.

The totemism in India is almost entirely of the clan variety and was originally associated with patriliney and clan exogamy. Totemic elements are widely distributed in India, but the extreme south and large areas in the north and north-west are non-totemic. He remarked that the tribes and castes of South India have been relatively neglected by ethnographically trained field workers. Anthropologists will get enough new material from this study as it is a well-written, well-documented and treated subject.

Professor Ferreira tried to collect available data on totemism and has thrown new light on the subject, which would help the serious student to get enough new material from it as the book is well-treated and well-documented expressly for the benefit of the serious workers on the subject.

B. K. CHATTERJEE

THE DUST-STORM AND THE HANGING MIST: A STUDY OF BIRSA MUNDA AND HIS MOVEMENT IN CHHOTANAGPUR (1874-1901). By Suresh Singh, I.A.S., Ph.D. Firma K. L. Mukhopadhyay, Calcutta, 1966. Pp. xxiv + 208 + Notes and Appendices, pp. 179 + maps and illustrations. Price Rs.30.

The author has done a very useful work by collecting together all information about Birsa Munda and his movement from official records and from personal enquiry in the field where he served in an administrative capacity. Several accounts are already available of the Birsa movement; but they suffer either from a paucity of facts or from a romanticism with which the movement has been clothed in later times.

The present book is thus decidedly an improvement. The reviewer has, however, had the feeling that some of the details could have been cut out without harm to the main theme. The doings of the Police Department or the details of their movement could have been compressed without much harm. The theoretical findings regarding the religious and political movement in question could then have been developed even more fully than they have been.

One of the most interesting aspects of the book is the description of the various sub-sects into which Birsaism has now divided itself. The collection of folk-songs on Birsa and his movement is also a very valuable feature.

We are sure the book will be well received by readers interested in the question of the tribal communities of Bihar, and what has been happening to them.

NIRMAL KUMAR BOSE

THE IRON AGE IN INDIA. By N. R. Banerjee. Munshiram Manoharlal, Delhi 6, 1965. Pp. xxiv + 264 + plates and maps. Price Rs.35.

This is a useful compilation of the evidences so far available about the Iron Age in India. In fourteen chapters, the author covers the ground from the earliest evidence of the use of iron in India to questions like life in the Early Iron Age. He has tried to correlate with care the chronology of N.B.P. ware and of megaliths with the evolution of the Iron Age. The Aryan problem has also been dealt with and discussed in the context of the use of iron and of particular types of pottery.

The author has thus tried to be comprehensive; but he leaves us frequently with a feeling that his provisional hypotheses outstrip those warranted by the evidence itself. He seems to lean more towards stretching his evidence to the utmost possible extent instead of treading the ground softly, and confining himself to the smallest range of maximum probability. This makes the treatment of some questions rather loose.

Yet, as a painstaking collection of all available material and of their systematic, careful presentation, the book will form a most welcome addition to Indian archaeological literature.

NIRMAL KUMAR BOSE

THE LIFE OF MIR JUMLA. By Jagadish Narayan Sarkar. With a foreword by Sir Jadunath Sarkar. Thacker Spink, Calcutta. Price Rs.12.

There are not many figures in Medieval Indian history so arresting as that stormy petrel of the seventeenth century, Mir Muhammad Sa'id, known to history as Mir Jumla: adventurer, merchant, general, diplomat, minister, pro-consul—indeed 'a born king of men'. The life of this gifted child of Persia is worth writing; and so Dr. Jagadish Narayan Sarkar has chosen no mean theme. What he has produced is rather a history of Mir Jumla than his biography, though both the author and Sir Jadunath in his foreword call it so. Vincent Smith's *Akbar the Great Mogul* is the history of that great emperor; Laurence Binyon's *Akbar* is his biography.

The Life of Mir Jumla is a product from the laboratory of the late Sir Jadunath Sarkar; and every page of the book bears testimony to this fact. Alike in its thoroughness, mastery of details, critical handling of sources, methodical treatment, lucid exposition as well as in equal emphasis on all issues from the portrayal of the hero or the description of a major campaign to the identification of an obscure place-name or the chronology of a minor incident, the book bears the impress of the historian of the decline and fall of the Mughul empire under whose masterly guidance it was prepared. Unlike many of the works of that great historian, Dr. Jagadish Narayan's volume has an index, a full bibliography and footnotes with exact references.

It is a solid contribution to the subject. The author has been indefatigable in ransacking all accessible sources, some of which are still in manuscript: Persian, Marathi and European as well as Assamese, Tamil, Telugu and Sanskrit; and he has brought together for the first time a heavy mass of variegated data in one comprehensive review and judgment. His task has by no means been easy, the more so because at many points he covers the same ground as Sir Jadunath in his reputed *History of Aurangzib*. In fairness to our author it has to be confessed, as Sir Jadunath himself has, that *The Life of Mir Jumla* is not only a valued supplement but also a necessary corrective to his *magnum opus*. Some of Dr. Sarkar's chapters are absolutely original, others are either elaboration of material on a wider canvas or presentation from different points of view, e.g. chapters on early life, conquest of Eastern Karnātak, Mir Jumla as minister and as governor of Bengal, as well as sections dealing with his administrative and commercial activities and relation with European traders, and are distinctly original. The author has been able to treat his subject in an objective manner. He does neither reveal prejudice nor zeal; and he does not indulge in hero-worship of which not a few historians in India are guilty. We now know all that we need know about the versatile general of the last great Mughul emperor of India.

I should like to add a few points for consideration of the author in the second edition of his valued work. In a scholarly work like this, it is not graceful to mention points arithmetically: (i), (ii), (iii), etc., as is done in note-books. With the statement of the author that 'in Hindusthan, however, Persians could not hope easily to reach the topmost rung of the ladder' (p. xiii) all may not agree; and a perusal of Blochmann's list of *mansabdārs* in the English translation of the *Aīn-i-Akbarī*, vol. I, and the *Maāsir-ul-Umarā* would not lead us to the same conclusion. Capital 'J' is not necessary in Mir Jumla as a general, but the author even makes Sir Jadunath do so at p. 293, though he has not done so in his original. The *Tārīkh-i-'Alī 'Ādil Shāh Sānī* by Sayyid Nūrullah, composed in 1666-1667 A.D. and therefore a contemporary work, should not be treated as a secondary source (p. 319). The use of diacritical marks in the simple method adopted in the *Cambridge History of India*, vols. III and IV, would be profitable. A few maps would only enhance the value of the book. There are printing mistakes not covered by the list of errata.

SUKUMAR RAY

SHAH ALAM II AND THE EAST INDIA COMPANY, by Kalikinkar Datta, M.A., Ph.D. (Cal.), P.R.S. The World Press Private Ltd., Calcutta. First published in December 1965. Rs.25 or 40s. net. Pp. 148, with a preface, map, bibliography, glossary and an index.

The work under review belies the fond belief, held by some writers, that the biographical phase of Indian historiography has ended. Here, in this well-produced biographical study of Shah Alam II, Dr. K. K. Datta, the eminent author of *Alivardi and His Times* and of several other research books on Indian History in the modern period, has attempted to study 'the growing liquidation of Mughal sovereignty and stages in assertion of British sovereignty in India in its place' (p.v). It is divided into seven chapters.

Chapter I deals with Shah Alam's fruitless expeditions into Bihar and Bengal to arrest the growth of British political supremacy there. He tried his luck thrice but failed. In Chapter II (Buxar to Diwani, 1764-65), Dr. Datta discusses the significance of Buxar and of its logical sequel, the Diwani grant of 12th August, 1765. Chapter III (Delhi Restoration, 1772) tells us the events and circumstances leading to the restoration of Shah Alam II after some years of imprisonment at Allahabad. Chapter IV deals with the Stoppage of Tribute due to Shah Alam from Bengal and Disavowal of Sovereignty during the period covered by the successive administrations of Verelst, Cartier, W. Hastings and Cornwallis. Chapter V mentions the disturbed state of Delhi Affairs during 1778-85 and also the concern of the British about them. In Chapter VI, Dr. Datta narrates Shah Alam's agonies, caused by the brutalities of Ruhela chief Ghulam Qadir and other misfortunes, and then goes on to describe the pathetic appeals for help to different quarters. In the concluding chapter, Chapter VII, are described the factors and circumstances leading to the Eclipse of Shah Alam's sovereignty. This is followed by a critical estimate of Shah Alam's personality.

The story has been told with remarkable lucidity and the work keeps the attention of the reader engaged till the last. The work is based on a skilful use of original sources in different languages, like English, French, Marathi and Persian. But nowhere has the narrative become dull. The book is 'a tribute of regard to the sacred memory of the late Sir Jadunath

Sarkar', who suggested the subject to him. The author expresses his indebtedness to him in different respects.

At the end of the perusal of the book, one is inclined to agree with Dr. Datta's verdict: 'The career of Shah Alam II is a commentary on the history of India during the eighteenth century, which, for various reasons, was a tragic period.' It is clear that Shah Alam himself became a victim of that age of 'delusion and deceit', as he himself aptly described it.

There are, however, a few points on which the reader would expect further light:

- (i) Early life of the Prince.
- (ii) Analysis of the reasons for the difference in the attitudes of Clive and Warren Hastings towards the Emperor. While Clive wanted to utilize the position of the Emperor who was only a shadow, Warren Hastings described the Emperor as a 'wretched King of shreds and patches'.
- (iii) More personal details of Shah Alam.

The learned author might like to throw light on these in the second edition of the book. The get-up and printing of the book are excellent.

JAGADISH NARAYAN SARKAR

RAJA MAN SINGH OF AMBER, by Dr. Rajiva Nain Prasad, Reader in History, Magadh University, Gaya. First published in January 1966. The World Press Private Ltd., Calcutta. 192 pages. Price Rs.25 or 40s. net.

The first Mughal Empire of Babur and Humayun was essentially a weak and invertebrate political structure which collapsed within 15 years of its establishment before the blow struck by the Surs. But the Sur Empire was meteoric in its sudden rise and sudden fall. The Mughal Empire was re-established on a firm foundation by Akbar. Profiting by the lessons of the Delhi Sultanate and of his own ancestors, he tried to build up the empire on a novel basis with the co-operation of the Hindus, especially the Rajputs. Thus in the expansion and consolidation of the Mughal Empire under Akbar, a very important and significant part was played by Hindu nobles like Raja Todar Mal, Raja Man Singh, Raja Birbal and others. The study of important personalities like Todar Mal, Man Singh and others is, therefore, imperatively necessary for understanding the role of the aristocracy during the age of the Great Mughals.

Raja Man Singh was one of the most distinguished personalities in the reign of Akbar. We get an idea of the important part he played as an empire-builder—as a general and a statesman—from the accounts in Dr. V. A. Smith's *Akbar the Great Mogul*, Sir Jadunath Sarkar's *History of Bengal*, Vol. 2, and Dr. A. L. Srivastava's *Akbar the Great*, Vol. 1. Here, in this book, Dr. R. N. Prasad has made a significant contribution to Indo-Moslem history by this well-written, well-documented and authoritative biographical study of Raja Man Singh of Amber.

The thesis is the result of seven years of patient study of different classes of contemporary and later sources—Persian, Rajasthani, Hindi, Urdu, Sanskrit, Bengali, English, supplemented by archaeological and epigraphic evidence. The author has collected his materials from different collections, including the Jaipur Darbar records. He has visited various places like Jaipur, Udaipur, Ajmer, Mathura, Brindaban, Varanasi, Baikatpur

(Patna), Hajipur, Darbhanga, Calcutta and Rohtas in search of his materials, which he has used critically and judiciously.

In the Introduction the author has described the importance of the career of Raja Man and stated the reasons why he took up his biography as the subject-matter of his thesis. The book has been divided into 10 chapters:

I. Ancestors of Raja Man Singh; II. Parentage of Man Singh; III. Kuar Man Singh in the Mughal Imperial Service; IV. Kuar Man Singh and the Ranas of Mewar; V. Kuar Man Singh as the Governor of Kabul; VI. Kuar Man Singh as the Governor of Bihar; VII. Raja Man Singh as the Governor of Bengal; VIII. Raja Man Singh and the last days of Akbar; IX. Raja Man Singh and Emperor Jahangir; X. Character and Personality of Raja Man Singh.

Thus we get here a full-length biography of Man Singh and a detailed account of his political activities—suppression of rebellions and pacification of the country. His governorship of Kabul, Bihar and Bengal was successful in several ways. This supplements Sir Jadunath's *History of Bengal*, Vol. 2, Chapter XI, in various points.

Raja Man Singh has sometimes been regarded 'a parasite of Akbar, an outcast and a traitor'. The author has tried to remove the misconceptions and exaggerated notions regarding the Raja and also to throw new light on his achievements. He has made bold to differ from the views of Col. Tod, Dr. James Wise, Dr. V. A. Smith, Dr. Raghubir Sinha, Rai Bahadur G. H. Ojha and Dr. H. Vedantasastri on different points.

Among the original contributions of the author may be mentioned (i) his reconstruction of the genealogical history of the ancestry of Raja Man from Raja Sorha Deva of the tenth century and (ii) his solution of the problem of the parentage of Raja Man. He has demolished the views of Tod and Smith that Man was the adopted son of Raja Bhagwan Das and has concluded that he was the son of Raja Bhagwant Das and grandson of Bihari Mal; (iii) his reconstruction of the childhood of the Raja; (iv) his critical analysis of the true causes of the Battle of Haldighat, the strength of and the casualties suffered by the two armies, and the results of the battle; (v) his account of the interview between Raja Man and Ram Das Kachhwaha, who along with Sayyid Khan Barha foiled the efforts of the Raja to enthrone his nephew Khusrau in place of Prince Salim.

For the first time we get a discussion of the character and personality of Raja Man and of his attitude to religion and toleration. What is very striking is that though he was a strict Hindu he had many mosques repaired and new ones erected. The Raja emerges not merely as a reputed imperial commander, statesman, administrator, an empire-builder and an intriguer but also as a highly cultured man of wits, beneficent temperament and refined taste and as a patron of learning and literature, art and architecture. Chapter XI detailing the Raja's contributions to architecture and the various buildings, temples and forts erected by him is highly informative and interesting.

The value of the book is heightened by three appendices, and a list of very interesting illustrations including photos of portraits of Raja Man and of a few others, and 56 pictures of Amber and various forts and buildings, but these are somewhat small in size and indistinct.

The printing, paper and get-up of the book are quite commendable. Printing mistakes are very few indeed—but some do not find place in the errata at the end of the book—as on pages xi ('Sri' for 'Sir', 'Khudabaksha' for 'Khudabakhsh'), 21 ('Ranthambor' for 'Ranthambhor'), and 76 ('Mr.'

for 'Dr.' Smith). The word 'farman' always means an imperial order. It is not quite clear why the word 'farman' has been used in Appendices A and B: 'Farmans' of Rajas Man Singh and Madhava Singh. The expression, 'It would be more historically true to say . . . ' (last line, p. 18), appears jarring. One, again, wonders why the author has spelt the word Nainsi as 'Nancy'. The footnotes contain such references as *Akbarnamah* translated by H. Beveridge on every page, e.g. 80, 81, 82, 83, 84 and 85. These could be shortened.

The bibliography is full but the value of the book would have been heightened if the author had given a critical discussion of the importance of the various original sources, especially the Rajasthani *Khyats*, and also added a few maps to illustrate the Raja's campaigns.

JAGADISH NARAYAN SARKAR

CHALCOLITHIC CHANDOLI. By Santaram Bhattachandra Deo and Zianuddin Dawood Ansari. Published by the Deccan College Post-Graduate and Research Institute, Poona-6, 1965. Pp. 1-206. Price Rs.35.

The book under review embodies in its 12 chapters the results of archaeological excavations (1960) of an ancient mound in the village of Chandoli Khud on the bank of the Ghod in Poona district in Maharashtra. The site, though small, has revealed an interesting cultural assemblage rich in pottery, burials, stone artifacts, terracottas, beads and copper objects. The data of Chalcolithic Chandoli is stated to range between *circa* 1600-1440 B.C. Chandoli lies to the south of the Jorwe and Nevasa group of sites and shares certain cultural traits of the latter.

There is not much of stratigraphy at the Chandoli site. A thick deposit of silt is capped by black cotton soil (6'), the top of which was the scene of the first human habitation at Chandoli. The thickness of the habitation deposit ranges between 4½' and 5½'. The topmost layer is cut by burial pits of the late medieval period. No complete structure or plans could be had, but the evidence of bits pieced together suggests mud huts strengthened with wooden posts.

A great variety of pottery fabrics characterizes the site. It includes red ware (most dominant), black ware, grey ware and cream-slipped ware. The first includes the Jorwe ware (37 per cent) and Malwa ware (12 per cent). The grey ware with its three varieties contributed about 17 per cent of the pottery. Coarse red wares account for about 30 per cent of the pottery found. As many as 14 ceramic fabrics have been identified. But the excavations have not revealed any sequence. The wares are of various types with painted designs, mostly geometric. The pots and utensils show three groups—those for daily domestic use, those for refined use and the others for ritual or burial.

Urn-burial was the prevailing custom. Of the 24 burials unearthed, 23 are child burials. Most of the burials were laid on the floor of the houses. Such child burials in urns have also been reported from Nevasa (and elsewhere) indicating a close affinity. It is interesting that only one adult burial has been found. It is an extended burial. Does the scarcity of adult burials suggest cremation?

Polished stone-tools are few. Only two axes were found in the excavations. The others, mostly surface finds, include an adze, a chisel, three fabricators and some cores and incomplete tools. Blade tools include blunted backs, end-scrapers, hollow-scrapers, points, serrated blades and

fluted cores. Beads of shell (common), agate, jasper, carnelian, copper and terracotta have been found. The find of a necklace of copper beads with a central jasper band is interesting. The terracottas among others include lamps, discs, wheels, stands, a toy bull and a theriomorphic vessel. The last object is a bull-shaped cylindrical vessel and was probably mounted on wheels. Such bull-vessels are also found in Nevasa and Mohenjodaro. Similar vessels are also reported from Iran, Iraq, Syria, Egypt and other places. Stone objects include saddle-querns, rubber-stones, pounders, anvils, etc., which indirectly testify grinding of grains. Besides pottery, the blade industry is conspicuous in Chandoli and recalls similar industries elsewhere in the Deccan. The copper objects include beads, fish-hooks, chisels, an axe, a dagger, a bangle, a ring, an anklet and a rod. All these so well-documented in the report under review shows Chandoli to be a very rich and interesting site. Claimed by the authors to be one of the best in Maharashtra, it shows illuminating comparisons with the Jorwe, Navdatoli, Nevasa and other cognate sites. On the ceramic evidence there are clear affinities with Navdatoli on the Narmada and Nevasa in Maharashtra. The reader will be impressed with the wealth of the ceramic complex, the terracottas, the blades and the burial traits. From the texts and the fine illustrations, the reader would get an interesting picture of proto-historic village life in Maharashtra in the 2nd millennium B.C. with its arts and crafts and ritual and burial customs. There is, however, no evidence of farming or animal domestication. Agricultural implements like sickles, saws or digging sticks are conspicuous by their absence. No foodgrains have been traced. The Chandolians probably obtained their foodgrains from elsewhere.

The reviewer is not impressed with the nomenclature 'Chalcolithic' to describe the Chandoli cultures. Its meaning and its chronological context in India is rather uncertain. The authors have assigned the place of Chandoli in the so-called Chalcolithic Chronology (s) in the light of the ceramic evidence found at Navdatoli, Nevasa and elsewhere. Based on this, the relative position of Chandoli, according to the authors, is later than the earlier phases of Navdatoli and possibly a little earlier than Nevasa. In age, Chandoli ranges between 1400 and 1600 B.C. or later. The C_{14} dates of Chandoli are 1300 (± 70) B.C., 1330 (± 70) B.C. and 1240 (± 190) B.C.

Though it is post-Harappan in date, it does not show any link with Harappan or cognate cultures save for one or two rare finds. Nor is there any suggestion of urban life. On the other hand, the traits which characterize Chandoli rather suggest a late Neolithic technology. The few copper objects found do not establish knowledge of metallurgy in Chandoli. Of the 24 copper objects found, 14 are beads fashioned out of crude copper. The ten others include a bangle, a ring, an anklet (fragments), three fish-hooks (fragments), three chisels, a rod, an axe and a dagger or spear with antennae hilt, recalling similar finds in Fategarh, Bithur and Kallur. It is just possible that these few copper specimens are borrowed ones. In the report there is no mention of a smithy, nor have any relics (like slags, crucibles, etc.) connected with ancient metal-casting been found at the Chandoli site. From the meagre evidence, we cannot say that there was a regular use of copper (or bronze) which marks the end of the Neolithic. Hence, until we can establish the fact of regular use of copper artifacts along with that of stone artifacts in Chandoli, the term 'Chalcolithic' as prefixed to Chandoli is a misnomer. Besides, there is no archaeological succession or stratigraphy to confirm its relative position in cultural evolution. We know almost nothing of its antecedents or its successors. The diverse

pottery traditions pose problems. Perhaps a solution lies in the diffusion of these traditions from elsewhere. With the data now before us, Chandoli presents a picture (though necessarily incomplete) of what may be described as a proto-historic variant of the late Neolithic. Some of the traits found at Chandoli and other cognate sites may be traced in the ethnographic present. It is significant that of all the traits represented at Chandoli it is the pottery which is the most dominant and which certainly as a whole characterizes the site. It is not unlikely that it was a potters' settlement. Its population was certainly small if we take into account the burials.

According to the author, Chandoli shows cultural links both with Central India and the Deccan. But the link is more near and stronger with Deccan sites like Nasik, Jorwe and Nevasa. The Jorwe wares, 'the fossil type' of the Deccan Chalcolithic, are most dominant in Chandoli pottery. The coarse red ware is also common. The grey ware typified in burial urns as well as in domestic use in Chandoli is characteristic of the Deccan Neolithic. No other site in Maharashtra has revealed such a range of ceramic fabrics. No doubt, as the authors state in conclusion, Chandoli is an extension of the Jorwe-Nevasa culture complex with its full adoption of the Deccan Neolithic. Indeed, with the data to hand, Chandoli may well belong to the Jorwe-Nevasa culture complex which itself may be the result of contacts during the 2nd millennium B.C. between a proto-historic Neolithic variant and a culture complex (Chalcolithic) characterized by highly specialized red wares painted with geometric designs. The few copper objects presuppose the presence of coppersmiths elsewhere during the period.

The volume is the result of painstaking and intensive studies undertaken by the two learned authors. The great bulk of archaeological material has been systematically presented and illustrated with beautiful drawings and photographs. The text is well-written and the printing is clear. The appendices on skeletal remains (the only adult skeleton found has been described at great length), on copper objects, on shell remains and on flax have added useful information. The book would be a valuable addition to any library of archaeology and will usefully serve scholars engaged in field research. The volume is expensively published and is correspondingly priced.

D. SEN

A BIBLIOGRAPHY OF SANSKRIT WORKS ON ASTRONOMY AND MATHEMATICS, Part I, Manuscripts, Texts, Translations and Studies. By S. N. Sen with the research assistance of A. K. Bag and S. Rajeswar Sarma. National Commission for the Compilation of History of Sciences in India: Source Materials Series. National Institute of Sciences of India, New Delhi.

This is a welcome addition to the extremely inadequate bibliographical literature on Indology. Immense valuable information has been collected and presented here principally under the names of various authors arranged alphabetically. References have been given in connection with particular works to their manuscripts preserved in different libraries and listed or described in catalogues, printed editions, translations and studies on them in European languages. The remaining two parts of the projected three will contain 'notes on Indian astronomers and mathematicians as also abstracts of books, articles and reviews in learned periodicals in European languages bearing on the history of Indian astronomy and mathematics'. Restricting the survey to European languages to the complete exclusion of

modern Indian languages in which scholarly articles are occasionally published is scarcely justifiable, though there may be some practical difficulties in the way. Attempts are required to be made to solve these difficulties by organizations like the National Commission for the Compilation of History of Sciences in India. As a matter of fact, a number of bibliographies published in Europe and America are known to have covered, at least partially, publications in modern Indian languages.

A few omissions and inaccuracies were noticed. No cognisance appears to have been taken of the proceedings and transactions of the All-India Oriental Conference and the few scientific papers published in them, like the one in the proceedings of the second session on different *Sulbasūtras* by N. K. Majumdar. In fact there is no separate entry on *Sulbasūtras*. The date of publication of Aufrecht's famous Bodleian Library Catalogue is given as 1954 instead of 1864, and his *Catalogus Catalogorum* is referred to as consisting of five parts in place of three.

An index of names of editors, translators and authors of studies as well as a subject index or a subjectwise arrangement of the entire material would have been of much help to workers.

CHINTAHARAN CHAKRAVARTI

STUDIES IN THE UPAPURĀNAS. By R. C. Hazra, M.A., Ph.D., D.Litt., Professor of Smṛti and Purāṇa, Department of Post-graduate Training and Research, Sanskrit College, Calcutta. Vol. II (Śākta and Non-sectarian Upapurāṇas). Calcutta Sanskrit College Research Series No. XXII. Published by the Principal, Sanskrit College, 1, Bankim Chatterjee Street, Calcutta-12.

The volume deals with four Śākta Upapurāṇas (the Devīpurāṇa, the Kālikā°, the Mahābhāgavata° and the Devībhāgavata°) and two non-sectarian Upapurāṇas (the Bhaviṣyottara° and the Brhaddharma°) along with a fairly long list of lost Upapurāṇas of both the Categories, nine Śākta and as many as twenty-five non-sectarian Upapurāṇas or Upapurāṇas of unknown origin. The decision to take off from the present volume the section on Gāṇapatya Upapurāṇas and replace it by the section on non-sectarian Upapurāṇas, though demanded by the exigencies of the situation, cannot be supposed to have been happy as sectarian matters should have not the precedence over non-sectarian things in the present case. The plan of treatment in the present volume is the same as that in the first reviewed in the *Indian Historical Quarterly*, 34, 296-7). Detailed description of each particular work is followed by a discussion of its date and place of origin. Attempt has been made to get together—almost a Herculean task—all available information about the lost Upapurāṇas. Bits of information scattered here and there, especially those found in regional languages, might naturally have escaped notice. Mention may be made of the association claimed in a medieval Bengali text, called the *Īmutemaṅgala* of the *Jitāṣṭamī-vrata-kathā*, with the *Brhannandikeśvara-purāṇa* (*Sāhitya-Parīṣat-Patrikā*, 67) and of references to several titles in some other works (*Purāṇa*, 7, 155).

CHINTAHARAN CHAKRAVARTI

THE PRABHĀS-PĀṬAN COPPERPLATE

By SWARANA KAMAL BHOWMIK

(Received January 5, 1967)

Twenty years ago, a photograph of a plate bearing inscriptions was published in the *Times of India*.¹ The inscription on the plate created curiosity as well as confusion amongst the scholars. Many epigraphists attempted to throw light on the inscription. Opinions were sharply diverse as to the content, antiquity and origin of the plate. When observed from the top it appears like the ancient Brāhmī script² written from left to right. On reverting it, however, it appears to be some Semitic script like Aramaic,³ reading from right to left.

The plate (7.6 cm. × 6.3 cm. × 1.5 mm.) was discovered at Prabhās-Pāṭan in Somnath. Pandit Harishankar Shastri, President of the Prabhās-Pāṭan Historical Association, recovered the plate from a Brāhmaṇa family.

Up till now nobody is certain about the content and the place of production of the plate. As it is very difficult to know these facts in the face of extremely diverse opinions concerning the copperplate inscription, a technological study remains the only means that can provide an answer.

A quantitative chemical analysis of the plate was carried out in the Baroda Museum conservation laboratory and the data thus obtained were compared with available published data of copper objects belonging to India, Mesopotamia, Persia, Baluchistan, Anatolia and Cyprus. This comparison was necessary to trace the place of its production and the source whence the ore was obtained.

The quantitative chemical analysis of the copperplate reveals that copper is present to the extent of 98 per cent and nickel 2 per cent. The metal is found surprisingly free from impurities.

The copper objects, belonging to the Bronze Age found at Nal, Nundara in Baluchistan and Ghazishah in Sind, possess nickel (more than 4 per cent), lead (more than 2 per cent) and a little amount of arsenic in the composition.⁴ It is thus clear that the present copperplate bears no relation with the Baluchistan and Sind copper as far as the composition is concerned. The copper objects found in the Indus Valley are marked by the presence of antimony and iron as impurity in very little percentage; but the percentage of arsenic is appreciable and, in some objects, the arsenic content rises to seven per cent. The Indus Valley copper objects contain a very little percentage of nickel usually below 0.5 per cent and seldom above 1.06 per cent.⁵ But the present copperplate is free from impurities which are present in the Indus Valley copper.⁶ The analytical data of the copper objects found at Rangpur, a Harappan site in Gujarat, also disagree with the copperplate's composition. The Rangpur copper contains nickel, iron, tin and lead and the percentage of nickel hardly goes beyond 0.88 per cent.⁷

¹ *Times of India*, Bombay, Friday, March 1, 1935, p. 12.

² Dani, *Indian Palaeography*.

³ Raj Bali Pande, *Indian Palaeography*.

⁴ Stuart Piggot, *Prehistoric India*, p. 90.

⁵ P. C. Ray, *History of Chemistry in Ancient and Mediaeval India*, p. 25, Table III.

⁶ R. E. M. Wheeler in *Ancient India*, No. 3, January 1947, p. 125.

⁷ B. B. Lal, 'Scientific Examination of Metal Objects from Rangpur' in *Ancient India*, Nos. 18 and 19, 1962-63, p. 152.

A comparison of the published analytical data of a number of chalcolithic copper objects discovered from Chandoli (Maharashtra), Ahar (Rajasthan) and Langhanaj (Gujarat) shows further disagreement with the present copperplate.¹ The composition of the Nalanda copper objects also differs remarkably from that of the present copperplate.² From the above considerations and observations, it is obvious that the copper of the present copperplate does not belong to Indian soil and its origin, therefore, must be outside India.

A comparative study of the analytical data of the Bronze Age copper objects obtained from Ur, Kish, Tell-el-Obeid, Iraq and the Islands of Bahrein has enlightened us further. One copper object from mound A at Kish contains nickel to the extent of 3.34 per cent, copper 94.0 per cent, tin 0.43 per cent, lead 0.58 per cent, iron 1.31 per cent, sulphur 0.17 per cent. The copper objects from Tell-el-Obeid contains copper 98.81 per cent, nickel 0.12 per cent, iron 0.98 per cent. But the copper nail from Iraq is conspicuous by the absence of nickel. Out of the five bronze specimens from the Islands of Bahrein, three contain no nickel, the other two having nickel to the extent of 0.27 to 0.52 per cent. A copper nail, attached to a Sumerian statuette of elaeolite, in the Ny-carlsberg Glyptothek at Copenhagen, was analysed by Professor John Sabelian and shows that copper is present to the extent of 95.07 per cent, nickel 0.28 per cent and iron 0.86 per cent.³ Three specimens from the earliest graves at Ur, dating from before the first dynasty of that city, was analysed by Professor Dr. Cecil Desch, who found the percentage of copper varying from 84.18 to 85.13, tin 11.78 to 14.52, lead 0.47 to 1.62 and nickel 2.20, iron being present in one object to the extent of 1.74 per cent.⁴

Professor Bannister analysed one copper tool discovered from the Protodynastic Tomb (1207), and found the metal to be of high purity, though the nickel content of this tool was unusually high.⁵ Thus the presence of impurities such as lead, tin, iron and nickel indicates palpable difference between the Ur copper and the copperplate under discussion. But the analytical data of an axe-head made of copper obtained from the lowest layer at Susa near the head of the Persian Gulf are very interesting. This Susa axe-head was made of highly pure copper with little nickel, all other impurities being notably absent.⁶ Another copper article from Susa was a horse-harness which was analysed and found to have copper content to the extent of 98.5 per cent with a little nickel and iron.⁷ This gives another instance of high purity of the Susian copper object. It is, therefore, not unreasonable to think that the composition of the copper axe-head as well as the copper horse-harness bears a close similarity with that of the copperplate under discussion. From the above facts it may be observed

¹ K. T. M. Hedge, 'Metallographic studies in Chalcolithic Objects' in *Journal of the Oriental Institute*, M.S. University of Baroda.

² B. B. Lal, 'Examination on Some Metal Images from Nalanda' in *Ancient India*, No. 12, 1956, p. 56.

³ Harold Peake, 'The Copper Mountain of Magan' in *Antiquity*, 1928; Desch, 'Reports of the Committee on Sumerian Copper' in *Annual Reports of the British Association for the Advancement of Science*, 1928 to 1936; John Salelian, 'Analysis of a Copper Nail' in *Ancient Egypt*, 1924, p. 12.

⁴ Harold Peake, 'The Copper Mountain of Magan' in *Antiquity*, 1928, p. 454.

⁵ H. H. Coghlan, 'Notes on the Prehistoric Metallurgy of Copper and Bronze in the Old World', Pitt Rivers Museum, University of Oxford, p. 31.

⁶ Harold Peake, 'The Copper Mountain of Magan' in *Antiquity*, 1928, p. 453.

⁷ R. de Mecquenem, 'The use of Metals by the Susanehte civilizations', *Mémoires et Civil*, 1 (1946), pp. 77-88; *J. Inst. Metals, Metallurgical Abstracts*, Vol. 14, 1947, p. 145.

that the Sumerians utilized an ore containing impurities such as iron, tin and lead with an indefinite percentage of nickel, while the people of Susa used an ore free from impurities but with an appreciable quantity of nickel. It cannot be ignored that the Susian method of purification of the ore was much more advanced than the method used by the Sumerians.

In view of the above analytical data, we may draw a tentative conclusion that the copperplate under investigation belongs to Susa in Elam (Persia) near the head of the Persian Gulf. This conclusion also supports Shri Viccaji Dinshaw's opinion¹ of the Persian origin of the copperplate. The present copperplate does not appear to be a copperplate grant or any important document. It is a kind of talisman and such talismanic plates, square or round, were popular and widely used in Persia and other countries of the Near East for warding off the effects of the evil eye, a malady and a calamity.

A micro-metallographical examination proved that the metal is sound, compact and homogeneous, and free from cracks and porosity. The internal structure of the metal is fine and free from gas holes; the casting appears to be of good quality. Only the presence of a very small quantity of cuprous oxide in the metal was noted. The metal is totally free from corrosion products. The polished surface of the copperplate revealed its bright characteristic copper colour. This soundness of casting in copper, which is not too easy a metal to deal with, is a proof of skill of the metal worker. Another important point worth mentioning is that nickel is not the usual impurity in copper. The presence of nickel in reasonable quantity is advantageous. For it increases the hardness, but does not render the metal brittle and, at the same time, improves upon the casting properties. This indicates that the artisan who made this copperplate was in the know of the necessary skill and technical knowledge of sound casting. And, amongst the earliest metallurgists, the Susians alone can claim that perfection in metal work. The Susians and their neighbours, the Sumerians, showed an amazing technical skill in the products of metal workers; but, as far as the use of copper is concerned, the Susians showed greater skill than the Sumerians. Archaeological evidences revealed the fact that the metal workers of Susa attained great technical achievements in the making of metal articles from very early times.² The excavated metallic specimens from Susa such as vases, plates, mirrors, weapons and ornaments made of copper have been dated from 2800 to 2500 B.C. In Susa, articles of gold and silver belonging to about 2300 to 2200 B.C. were unearthed. Lead appears to have been used in Susa at the same date as gold and silver with a purity of 99.8 per cent. At about 1000 B.C., iron appeared in Susa in the form of arrow-heads and the ring was of high purity. All these indicate that the technical achievements of the metal workers of Susa were more commendable than that of the Sumerians. As Susa suffered sieges and pillages many times, the high technical knowledge of the metal workers of Susa rapidly spread to their neighbouring countries.

From the analytical data, it may also be suggested that it is very likely that the Susian coppersmith who prepared the copperplate obtained such pure copper by smelting malachite which is often of high purity. According to the German metallurgist, Wilhelm Witter, any copper obtained by smelting even when obtained from the purest oxidized ores, such as

¹ *Times of India*, Bombay, Wednesday, April 17, 1935.

² R. de Mecquenem, 'The use of Metals by the Susaneite civilizations', *Metaux et Civil*, 1 (1946), pp. 77-88; *J. Inst. Metals, Metallurgical Abstracts*, Vol. 14, 1947, p. 145.

malachite, azurite or a mixture of both, must contain traces or small quantities of foreign metals which may help to trace the source of the ore. Studying the analytical data of the ores obtained from different sites of Mesopotamia, Persia and other places, an attempt may be made to determine the place or source of the ore used in the making of the copperplate. The analytical data of the sample of copper ores obtained from Anatolia, Persia, Cyprus and the Sinaitic Peninsula, published by Professor Dr. Cecil Desch of the Sheffield University, proved the absence of nickel in all the samples of the above-mentioned places. The ore found in Oman was also analysed by Professor Desch and revealed interesting data. The ore, which was in the form of thin veins much mixed with other minerals, contained 1.50 per cent copper and 0.19 per cent of nickel. Thus it may be suggested that the people of Susa obtained their supply of copper from the mountain of Oman which yields an ore with a perceptible nickel content. Oman is situated on the south-west side of the Persian Gulf. The people of Susa and the neighbouring Sumer probably had knowledge of Oman where copper ore was available. According to Professor Langdon, 'Magan' was called the mountain of copper, and he suggests that this refers to Jabel Akhdar in Oman where copper is still found.

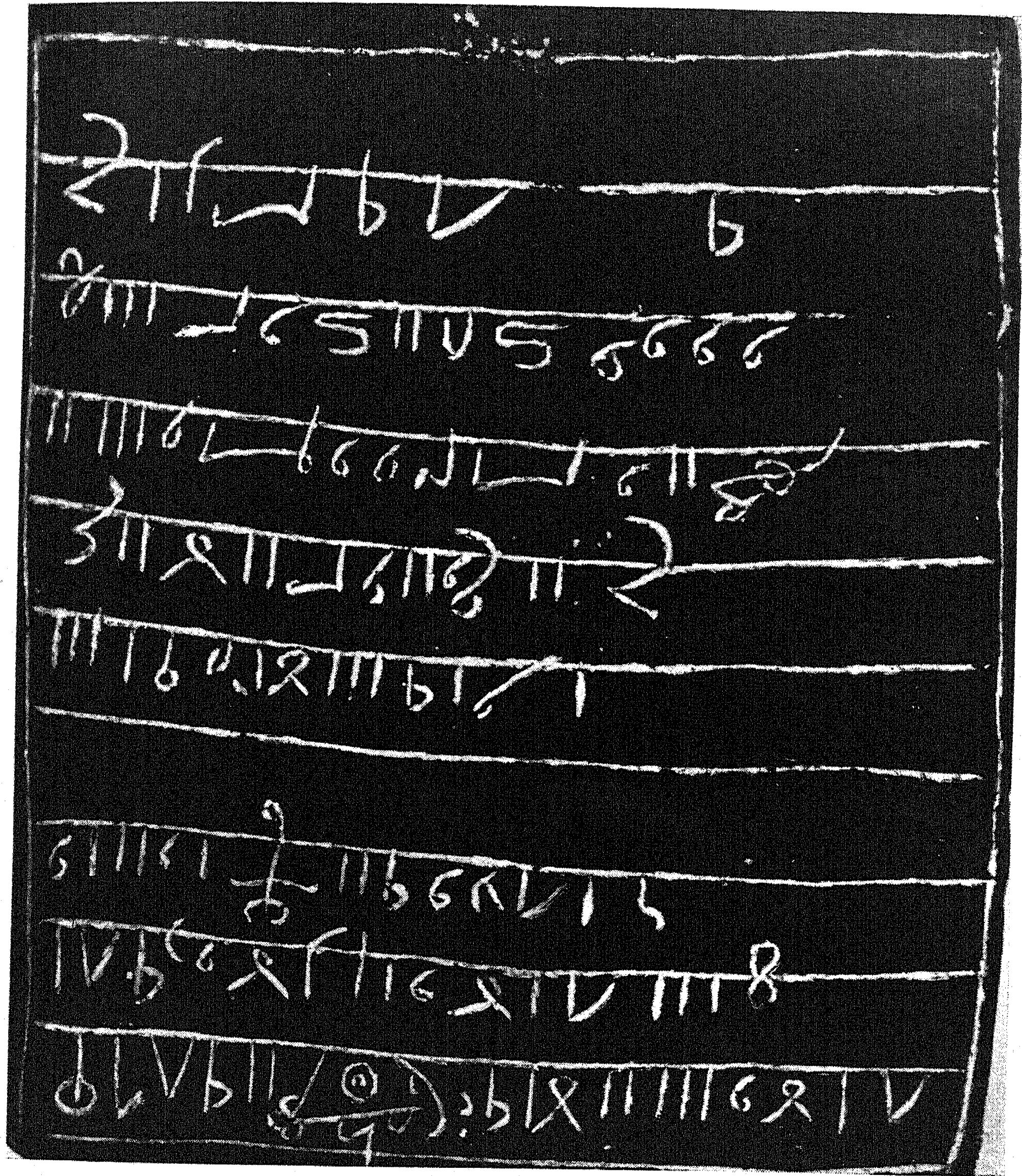
It may, therefore, be argued that the plate under investigation is made of copper drawn from the Oman (Magan District) which is situated on the south-west side of the Persian Gulf; and it was manufactured by the people of Susa.

As regards the date of the plate, nothing can be said for certain. From the technological point, the possible place of its production directs more towards Susa than to Sumer. But technologically speaking, the date of the plate should be earlier than eighth century A.D. which has been suggested by Shri Viccaji Dinshaw by his epigraphic study.

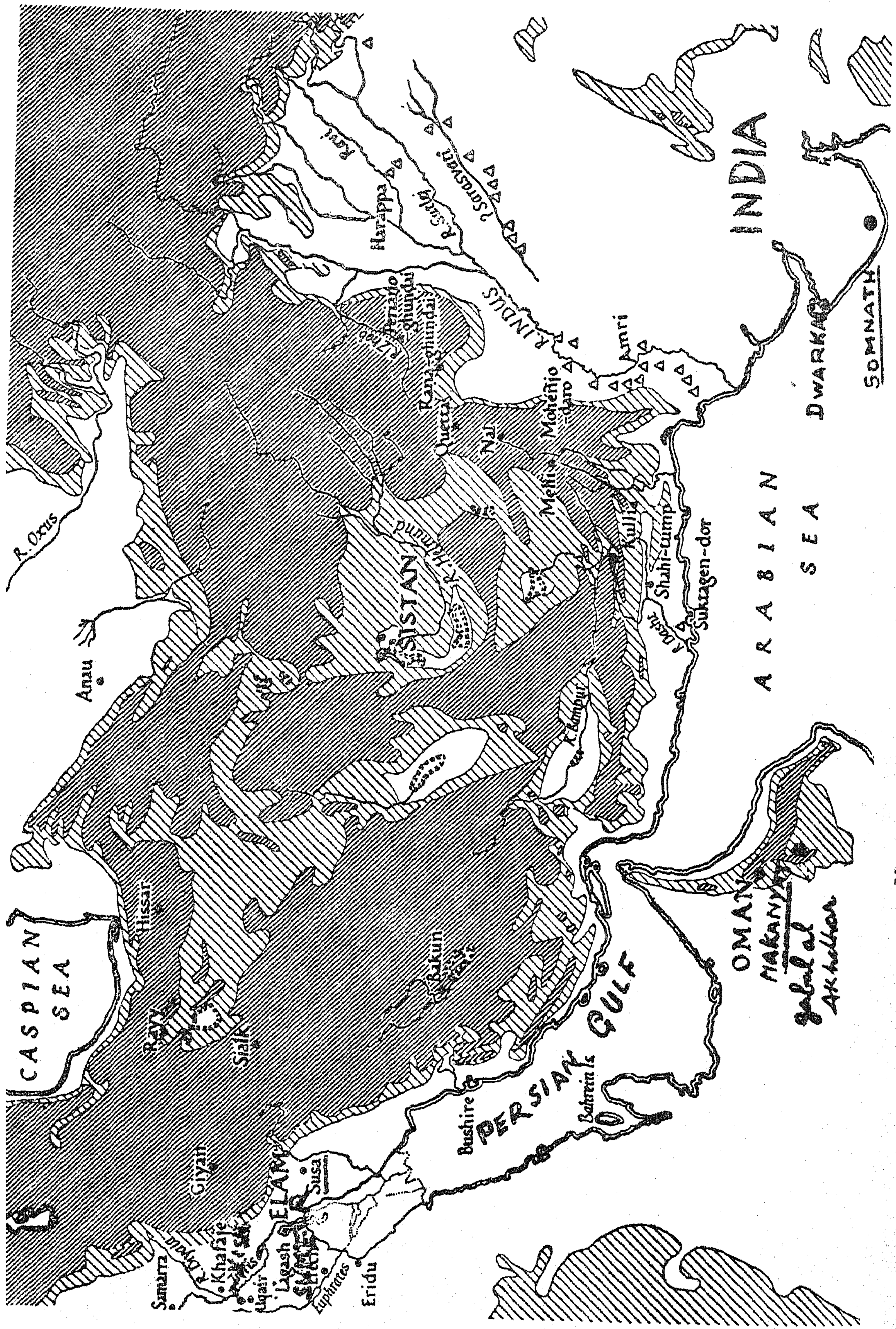
As far as the occurrence of the plate in the soil of Prabhās-Pāṭan is concerned, one may surmise that the plate has been brought to India from Susa by some people who had come to settle in India or for trade. There are evidences in history in support of migration and of trade relations between the two countries from the hoary past which cannot be ignored.

ACKNOWLEDGEMENTS

The author's grateful thanks are due to Shri M. A. Dhanki of Government Archaeology Department of Gujarat, Rajkot, and Shri H. P. Sastri of Prabhās-Pāṭan for their kind co-operation and for sending the copperplate to us for a technological study.



Facsimile of the Prabhās-Pāṭan Copperplate.



Map showing India and Western Asia.

NOTE ON S. K. BHOWMIK'S VIEWS ON THE PRABHĀS-PĀṬAN
COPPERPLATE

By D. C. SIRCAR

When the Asiatic Society asked my opinion on Sri Bhowmik's paper, I was happy because, in the latter half of 1965, I had an occasion to express my views on the inscription it bears. The curator of the Tablet Section, the University Museum, University of Pennsylvania, U.S.A., sent me a photograph of the inscribed plate and drew my attention to an old article on the inscription appearing in the *Times of India*, Bombay, in which the author associated it with king Nebuchadrezzar of Babylon, whose name was read in the epigraph. It is well known that Nebuchadrezzar I is assigned to c. 1140–1123 B.C. while the second ruler of the same name is said to have ruled in c. 604–562 B.C. The American scholar was puzzled because no Western savant could read the writing on the plate and thought that an Indian student of epigraphy might be of help. I was, therefore, asked to give my opinion on the question whether the name of Nebuchadrezzar actually occurs in the record.

I examined the photograph and observed that the inscription does not only contain any such old name, but is really some gibberish in the late medieval Perso-Arabic (Urdū) script and that the plate was apparently intended to be used by a Muhammadan as a *tābīz* or talisman.

Some time afterwards, in a communication to the monthly meeting of the Asiatic Society held on the 6th December, 1965, I further pointed out that such plates are called *yantra* by the Brahmanical Hindus and Jains (because they often bear diagrams called *yantra*)¹ and that they are widely used by the Indians, including the Muhammadans, for ensuring prosperity and averting evil. I also said that the writing on the plate consists of letters of the Perso-Arabic script together with some numerical figures and just a few symbols and that it was not meant for being understood by ordinary people. A holy man's writing was copied on the plate in order to make the talisman lasting; but its author wanted to give it the look of an enigma. Of course, if it would have been taken to its author or another person of the same type, he could read in it whatever he liked.

Buddhist Dhāraṇīs written on gold, silver or copperplates and on terracotta plaques were often used as talismans. They have been discovered in India and other Buddhist countries and have been noticed by scholars.² The talisman plates of the other communities are, however, sometimes ignored since they are supposed to be of little importance for the reconstruction of history. The following talisman plates have nevertheless been noticed in the *Annual Report on Indian Epigraphy* during the past few years :

I. 1953-54, No. A-6 from Tekkali in the Srikakulam District, Andhra Pradesh. Written in the Telugu language and script, it is a rectangular copperplate shaped like a *vedikā* and contains what is called the *Rājalakṣmī-yantra*.

II. 1953-54, No. C-133 from the Dacca Museum, East Pakistan. It is a copperplate bearing an inscription in Arabic and Persian in Nasta'liq

¹ Sircar, *Indian Epigraphy*, p. 77.

² Cf. *ibid.*, pp. 73, 78, notes 1 and 3.

characters, which contains the *Nād-i-'Alī* and the names of the archangels and was made for the use of Hasan Khān and his family for averting calamity.

III. 1955-56, No. A-8 from Mandasa in the Srikakulam District, Andhra Pradesh. Written in Sanskrit in late Nāgarī characters, this copperplate (nearly two feet square) bears the representation of a diagram consisting of 13 concentric circles with a number of lotus petals, the interspaces between the petals containing adoration to several Brahmanical deities and the spaces inside the petals certain Vaiṣṇavite *bījas*.

IV. 1959-60, No. A-52 from the Rājwāde Saṁśodhak Maṇḍal, Dhulia, Maharashtra. This copperplate bears the following enigmatic inscription in Nāgarī characters in two lines:

1. *ba° go° ka°*
2. *ba de rā° tā nā.*

V. 1960-61, No. A-26 from Ootacamund in the Nilgiris District, Madras. This plate bears a Sanskrit stanza in Grantha characters in praise of the god Āñjaneya whose figure is engraved above the writing.

The above five specimens of talisman copperplates would give the reader some idea about the varied nature of their contents. No. IV shows that the inscription was sometimes enigmatic as in the case of the Prabhās-Pāṭan plate.

Bhowmik has studied the metal of the plate, which is copper of high purity, and not the inscription it bears. However, his study is quite interesting because it relates to the problems created by some pseudo-epigraphists on the basis of the writing. On an analysis of the metallic content of the present plate and other copper antiquities from ancient Indian and West Asian sites, Bhowmik comes to the following conclusions: (1) The plate came to India from Susa in Elam (Persia) near the head of the Persian Gulf; (2) it is a talisman and such plates were widely used in Persia and other countries of the Near East; (3) its copper was drawn from Oman (Magan District) to the south-west of the Persian Gulf; and (4) its date is earlier than the eighth century A.D.

He is certainly right in regarding the plate as a talisman. It is unfortunate, however, that he does not explain as to why it should be ascribed to a date earlier than the eighth century A.D. Is it because a plate of pure copper could not have been made in India, even for a special religious purpose, during the Medieval Age? But the Perso-Arabic characters appear to be far too late for a date before the late medieval period. Of course, one may say that the plate was made during the late Medieval Age out of a copper object originally brought to India from the Persian Gulf area at a much earlier date.

THE MIGRATION OF SANSKRIT GRAMMAR, LEXICOGRAPHY,
PROSODY AND RHETORIC TO INDONESIA

By HIMANSU BHUSAN SARKAR

(Communicated by Professor Suniti Kumar Chatterji)

(Received December 8, 1966)

In an interesting paper read before the Asiatic Society,¹ Prof. Amulyadhan Mukhopadhyaya drew our attention to some aspects of Sanskrit metres and pointed out their similarity with Homeric and Old-Iranian metres. Our views about Indo-Aryan culture have rightly been formulated in the context of Ur Indo-European culture, with which the Indo-Aryan culture is associated in diverse ways. It was, therefore, not inappropriate that Prof. Mukhopadhyaya should invite our attention to the Indo-European and Indo-Iranian phase of our culture, particularly in the domain of metrics. The purpose of the present paper is not so much to do a piece of research work as to invite the attention of Indian Sanskritists to another important aspect of this culture and summarize the results of investigations so far done by European and other scholars, mainly Dutch, in this field. In view of the vast extent of the subject, the number of workers in the field has appeared to be exceedingly meagre and the output of investigations has been rather small, though not unimportant. This virgin field for work refers to Indo-Javanese grammatika, lexicography, prosody and rhetoric, not to speak of other branches equally interesting. Some spade-work has no doubt been done by European and Indonesian scholars, but the results of their studies are limited to those who know the Dutch and the German languages. No apology is, therefore, needed to present the subject-matter to scholars unacquainted with these languages.

Before we discuss the subject proper, it is perhaps necessary to make some observations on Indo-Javanese language and literature in so far as it relates to this paper. Of the hundreds of languages of the Malaya-Indonesian world only Javanese has an old literature of its own, dating perhaps from the ninth century A.D., though extant literary works with definite dates do not go beyond A.D. 996. The classical period of this literature spanned about five hundred years and then made room for Middle-Javanese. The Old-Javanese language was called Kavi even in the Majapahit period, because we come across in the *Nāgarakṛtāgama* (25 : 2) composed in A.D. 1365 the expression *vidagdeng āgama vruh kavi*, i.e. he was proficient in the *āgama*-lore and knew the *kavi*-language. The term *kavi* is now taken to mean traditional literary idioms in general, whether it is written in Old-Javanese or in a later form. The works in *kavi*-poesy are designated *kakavin* and they are composed in about a hundred Sanskrit metres. From references in older literature it appears that there were other literary devices—I do not think there are adequate data to give such literary devices the honour of the designation of 'literary genre'—and one such device, perhaps in Sanskrit language, was called *vavacan*, which has been referred to in the *Nāgarakṛtāgama* (93 : 2). It is not clear if it

¹ On 7th November, 1966, with Dr. R. C. Majumdar in the chair.

was composed in native metres and looked like the Malay Pontoon. Another class of poetical composition, probably in Sanskrit metre, was called *ambang*, which has been referred to in the *Sutasoma*, an Old-Javanese work dating from the fourteenth century A.D. Here the author speaks, towards the end of the poem, of 'the poet of songs and lambangs'.¹ These must have been popular in Java in the fourteenth century, because the *Nāgarakṛtāgama* also speaks of them.

Old-Javanese literature took shape in Central Java, but it flowered into wonderful shape in the court of the East-Javanese kings. Sanskrit language and literature crashgated into this empire of Indonesian languages, as they had nothing in common. The Indonesian languages are mono- or disyllabic, but they have no genders, case, number and inflexions, as in Sanskrit, nor do they form compound words or samāśas, though Sanskrit *saṃdhi*-rules have been followed here and there, but very grudgingly. Under these special circumstances, the influence of Sanskrit was necessarily limited: its contribution mainly lay in the sphere of loan-words, rhetoric and prosody. Besides, Sanskrit authors have given the Indonesian writers the theme of their works, but structurally the two languages belong to two different worlds. In the following lines we shall discuss how Sanskrit grammars, lexicography, rhetoric and prosody contributed their quota to the evolution of Old-Javanese literature. Naturally, the present study is designed to indicate the lines where competent Sanskrit scholarship from this country can be fruitfully employed. I now propose to discuss the subject under two broad headings, viz. (a) Grammars and Lexicographies and (b) Prosody and Rhetoric.

(a) GRAMMARS AND LEXICOGRAPHIES

Fortunately for us, some Indo-Javanese grammars and lexicographies have reached our hands. From the nature of the case, these works must have been composed early, but it is difficult to assign any particular date to these works, though the origin of some of them in Central Java is not, *ma facie*, an absurd proposition. Of these works, the *Svaravyañjana*,² *Ādisvara*,³ the *Kṛtabasa*,⁴ the *Sukṣabasa*⁵ and the *Kāraḥaṣaṃgraha*⁶ are meant for practical exercises in translation from one language to another. The reference to Pāṇini, Kātantra and *Candravyākaraṇa* in Old-Javanese literature/inscriptions perhaps indicates the line of Sanskrit grammatical tradition of Indonesia. We may study this tradition by a discussion on the *Candravyākaraṇa*, not only because it comes from the impeachable source of an Old-Javanese inscription of a known date, but also because it clearly states that some high officials of the State were proficient in it. The study of grammar was an essential qualification of a functionaries. Indeed, in an inscription of Jaya-Sōng, dated c. A.D. 1070,⁷ it has been stated that *ḍaṅg ācārya* Śivanātha and some others

¹ Vide Brandes, *Pararaton*, p. 163; *Nāgarakṛtāgama*, 94: 3-4; Pigeaud, *Java in the Fourteenth Century*, IV, p. 336.

² Juynboll, *Supplement*, II, pp. 216 ff.; *BKI*, 6th series, VII, pp. 630 ff.; H. B. Kar, *Indian Influences*, pp. 107 ff. A text of this name has been published by the National Academy of Indian Culture, New Delhi, 1956, but in a form which renders it difficult for scholars to use it.

³ Juynboll, *op. cit.*, p. 205, cod. 4009.

⁴ *Ibid.*, p. 207; *BKI*, 3rd series, VI, 1872, pp. 80-81, and Gonda, *Sanskrit in Indonesia* (1952), pp. 106-7.

⁵ Juynboll, *op. cit.*, p. 216.

⁶ S. Levi, *Sanskrit Texts from Bali* (GOS, No. 67), 1933, pp. xxxi and 87, and Juynboll, *op. cit.*, p. 215, No. 5075.

⁷ Pigeaud, *op. cit.*, I, pp. 104-7 (text); III, pp. 151-55 (trans.).

were versed in 'nyāyavyākaraṇasāstra'. These descriptions do not appear to me to be ornamental ones, because while *ḍaṅg ācārya* Kanakamuni has been described as *bodddhaśāstravyākaraṇa parisamāpta*, *ḍaṅg ācārya* Jayasmara has been described as *śaṅkyaśāstra parisamāpta* (*śaṅkya* = Sāṃkhya philosophy). In the Ferry-Charter of A.D. 1358,¹ such qualifications have been attached to the names of high officials. The precise name of a Sanskrit grammar from India has been found in an inscription of Java. It refers to the copperplates of Sēkar, Bajanēgara; the text of the inscription was published² by Prof. Krom long ago. In plate 3, ll. 5-6 of this record (second face) we come across the following interesting statement: *dharmmādhyakṣa ring kasogatan ḍaṅg ācārya nādendra sang āryyādhirāja bodddhapakṣa tārkkacandravyākaraṇa parisamāpta* . . ., i.e. the superintendent of the Buddhist institutions (viz.) *ḍaṅg ācārya Nādendra* (called) Āryyādhirāja who belonged to the sect of the Buddhists and had finished the (lore of the) sceptical science and the grammar of Candra. The record under review was composed after A.D. 1365. Whether this Buddhist Nādendra or Nādajña be identified with Prapañca, the writer of the *Nāgarakṛtāgama*, as proposed by Krom,³ or be his father, and son of Kanakamuni, as proposed by Poerbatjaraka,⁴ he was doubtless an important person and has been referred to in other inscriptions as well⁵ and undoubtedly flourished in the second half of the fourteenth century A.D.

The *Cāndravyākaraṇa*, as referred to in the Old-Javanese inscription, was written by the Buddhist scholar Candragomin. The work is closely connected with the *Aṣṭādhyāyī* of Pāṇini, but has also some original portions in it. B. Liebich who has recovered and edited the *Cāndravyākaraṇa* (*sūtra*, *unādi* and *dhātupāṭha* as well as its *vṛtti*) is of opinion that Candra wrote both the text and the commentary and that he flourished probably in the period between A.D. 465 and 544, though some others are inclined to place the date still later. The work is certainly earlier than the *Kāśikā* of Jayāditya and Vāmana, for this commentary on Pāṇini appropriates without acknowledgement 35 original *sūtras* of Candra's grammar, which had no parallel in Pāṇini but which Kayyata distinctly repudiates as un-Pāṇinian.⁶ The *Cāndravyākaraṇa* does not offer any material divergence from the work of Pāṇini (except 35 rules mentioned above), though it recasts the rules of Pāṇini and, in that respect, it may be considered to be an improvement upon the latter. As against the eight chapters of Pāṇini, it has six chapters of four sections each, the subject-matter of Pāṇini's first two chapters being distributed over the whole work. It rearranges the rules, sometimes simplifies the wording, reduces and modifies the *pratyāhāras*, makes certain changes in terminology, distributes the *saṃjñās* and omits the Vedic rules. It is interesting to observe that the *dhātupāṭha* of the Kātantra is in reality that of the Cāndra-system as modified by Durgasiṃha. From this point of view, the mention of the names of Pāṇini-Kātantra-Candra in the records of ancient Java appears to be significant and indicative of tradition of Sanskrit grammar as introduced in Java. It is, therefore, permissible to conjecture that the Old-Javanese tracts to teach Sanskrit were mainly, if not solely, based upon the *Cāndravyākaraṇa*.

¹ Pigeaud, I, pp. 108-12 (text), III, pp. 156-62 (trans.).

² TBG, 53, pp. 433-34.

³ Ibid., 57 (1916), p. 30.

⁴ BKI, 78, pp. 442-59.

⁵ See Kern, VG, VII, pp. 187 ff.; OV, 1918, Bijl. K., etc.

⁶ Vide Kielhorn in *Indian Antiquary*, 1886, pp. 183-85; Liebich, *Konkordanz Panini-Candra*, Breslau, 1928.

The names of Pāṇini, Kātantra and Vararuci (*Vararuci āha*) occur in the Old-Javanese grammatical work known as *Kāraḥasamgraha*. The *versus memorialis* in which the name of Pāṇini occurs runs as follows:

Dviguḥ tatpuruṣo dvando karmadhāraya tathaiva ca,
vahuṣrihyāṁavyayibhāvaḥ samāsaḥ pāṇinestu ṣaṭ.

The śloka has been corrupted and the metre is also faulty. Its original was probably something like this:

Dvigustatpuruṣo'hdvandvastathā ca karmadhārayaḥ
vahuṣrihyāvyayibhāvau samāsaḥ pāṇinestu ṣaṭ.

Be that as it may, the above-mentioned *versus memorialis* might have reached Indonesia as a traditional lore without the actual work ever being present in this place.¹ It is, however, worthy of note that King Indravarman III of Campā is said to have attained considerable proficiency in the grammar of Pāṇini with its *Kāśikā* and *Ākhyāna*, and had special knowledge of the *Uttarakalpa* of the Jainas.²

The *Kāraḥasamgraha* has been found in two MSS. and the name of the work has been recorded at the end. In this work, the writer has explained the *kāraḥas* one by one. It begins by stating that the person who knows the connexions between *karman* and *kartṛ* may be called an expert. The text, as published by S. Levi, has about 45 ślokas. It includes, among other things, the following:

Karmakartā tayoryogaṁ vetti sa vicakṣaṇaḥ |
yat kṛtaṁ karma tat proktaṁ sa kartā yaḥ karoti vā ||
tṛtīyā prathamā ṣaṣṭhī tisraḥ kartṛtvajātayaḥ |
pañcamī saptamī tābhyāṁ ṛte tat karma śabdyate ||
sadvitīyā tṛtīyā ca pañcamī ṣaṣṭhikā tathā |
vibhaktayaścataśrastāḥ karaṇaṁ samprakāśitāḥ ||
tṛtīyakā caturthī ca ṣaṣṭhī tisro vibhaktayaḥ |
sampradāne samuddiṣṭāstapādāne pi pañcamī ||
vibhaktiḥ dvo'hdhikaraṇaṁ ṣaṣṭhikā saptamī tathā |
tatsarvvaṁ yuktiścintyaṁ śeṣe ṣaṣṭhī tu manyate ||

Towards the end of the text we read:

Kātantram ca mahātantram dṛṣṭvā tena uvāca |
vālāvavodha(nā)rthāya kṛtaḥ kāraḥasamgrahaḥ ||

S. Levi has stated that the definitions of the *kāraḥas*, as given by the author, very nearly approaches that of the *Kātantra* of Sarvavarman (beginning with 2/4, 14).³ The Sanskrit original of the text has not been discovered, but the author has stated that he has utilized the *Kātantra* and the *Mahātantra*. The Balinese commentator has further stated that the word *vakābhyāṁ* occurring in the second pāda of the first śloka refers to Viṣṇu and Brahmā and that the epithet *kavīndra* used in the subsequent śloka refers to Pāṇini.⁴

The ślokas of the *Kāraḥasamgraha* have been explained in the native language. The MSS. utilized by S. Levi were elucidated in Balinese. It appears that tracts of this type were designed to facilitate the translation from Sanskrit into Javanese or Balinese, as the case may be, by Indonesian students. Some fragmentary texts of this nature have been found in

¹ H. B. Sarkar, *op. cit.*, pp. 110 ff.

² R. C. Majumdar, *Champa*, 1927, p. 232.

³ Levi, *op. cit.*, p. xxxi.

⁴ *Ibid.*

Bali, and we can deduce from them the method applied by the writers for the teaching of Sanskrit. We can offer some excerpts from such a fragment:¹

‘Sah: aham . . . tam rāmalakṣmaṇau rāmasca lakṣmaṇasca rāmaḥ . . . lakṣmaṇa . . . sitāsitaḥ sitasca asitaḥ sitaḥ asitaḥ . . . bhrātarau . . . vicarantau . . . tat² vanam . . . tasmin vane . . . Sītā janakātmajā janakasyātmajā janakaḥ . . . ātmajā . . . tam rāmalakṣmaṇau sitāsitaḥ bhrātarau vicarantau tam sītām janakātmajāṁ namaskṛtvā saḥ aham tat rāmāyaṁ rāmasya ayaṇam rāmaḥ . . . ayaṇam’, etc.

This extract is an exercise based on the first two ślokaś of an epitome of the *Rāmāyaṇa* and runs as follows:

‘Rāmalakṣmaṇau bhrātarau namaskṛtyā sitāsitaḥ vane tasmin vicarantau sītām ca janakātmajāṁ.’³

This abridged *Rāmāyaṇa* is called *Caritrarāmāyaṇa* or Kavi Janakī and is extant in Bali. Such tracts were obviously written to teach rules of Sanskrit Grammar or as text-books in classes. Levi has drawn our attention to the fact that Pītāmbar Śarman had composed a Sanskrit Grammar entitled *Sārasaṁgraha* on the basis of *Samkṣiptasāra* of Kramadīśvara. In that work, an epitome of the *Rāmāyaṇa* was worked out in metrics to teach the verbal formations in Sanskrit.⁴ In the *Caritrarāmāyaṇa*⁵ a similar attempt has been made to make the students familiar with Sanskrit rules of grammar. In the very beginning of the text we come across the following lines:⁶

‘viṭapoccitāya viṭapena uccita viṭapaḥ . . . uccita . . . tena vṛkṣeṇa . . . parṇeṇa viṭapoccitaśākhinā . . . te yācakāḥ saṅgapātrā . . . ākrtyante . . . pumāṇ dātā . . . dātum tacchilaḥ . . . tena pumsā dātrā te ālayāḥ . . . hr̥ṣṭāḥ te ālayāḥ hr̥ṣṭāḥ prahayanti . . . saḥ vṛkṣaḥ . . . stavakena adhyah . . . gandhavatya gandham vahati . . . gandhaḥ vahati . . . tasmai vṛkṣāya stavakādyādhyāya gandhavahine.’

We may now discuss another text dealing with Sanskrit grammar. It is called *Svaravyañjana*. The work is divided into two parts. The first part deals with svaras and vyañjanas and the second part with dhāturūpa and Sanskrit composition. Some sandhi-rules have also been discussed in the work. In the list of vowels, we find *a*, *ā*, *i*, *u*, *ṛ*, *ḷ*, *e*, *ai*, *o*, *aḥ*, *om*. Some of the long vowels are missing from the list. Dr. Juynboll thought that the missing vowels might have been present in the original text.⁷

In the list of consonants, one misses *kha*, *cha*, *jha*, *ṭha* and *ḍha*, which form no part of the Javanese system of consonants: there has also been some confusion in the serial No. of *ś*, *ṣ* and *s*. Such desiderata may be due to the carelessness of the copyist because these letters were not unknown to Old-Javanese authors. In the *Buddhaveda*, for example, we come across the following list: ‘Svaravyañjana: *a*, *ā*, *i*, *ī*, *u*, *ū*, *ṛ*, *ṛ*, *ḷ*, *ḷ*, *ka*, *kha*, *ga*, *gha*, *ṇ*, *pa*, *pha*, *ba*, *bha*, *ma*, *ya*, *ra*, *l*, *va*, *ca*, *cha*, *ja*, *jha*, *ṇ*, *śa*, *sa*, *ha*, *ta*, *tha*, *da*, *dha*, *na*.’ In this list we miss the *ṭa*, *ṭha*, etc.⁸ In the *Vedaparikramasārasaṁhitākirāṇa*,⁹ we find, in addition to the vowels described above,

¹ Text in Levi, *op. cit.*; Gonda, *op. cit.*, p. 106.

² For printing or for other reasons, the text from this portion up to vicarantau has been omitted in the extract furnished by Gonda, *op. cit.*

³ Text in Levi, *op. cit.*, p. 89; Gonda, *op. cit.*, p. 106.

⁴ Levi, *op. cit.*, p. xxxii.

⁵ Text in Levi, *op. cit.*, pp. 93-107.

⁶ Levi, *op. cit.*, p. 93.

⁷ The text under discussion is codex No. 4315-H at the Library of the Leiden University.

⁸ Levi, *op. cit.*, p. 75.

also the *e*, *ai*, *o*, *au*. The chronological order of the vowels is also similar to that followed in Sanskrit, but the order of the later consonants has been as follows: *ya*, *ra*, *la*, *va*, *śa*, *ṣa*, *sa*, *aṅ*, *aḥ*. The list does not include *ha*, *ḍa*, *ḍha* and the *candravindu*. We have said before that the order of sibilants is different, but that the usual order of the vowels and consonants was not unknown in Java appears from the list provided in the *Sang Hyang Kamahāyānikan*,¹ a work belonging to the ninth-tenth century A.D.

The short vowels, such as *a*, *i*, etc., have been called *ekamātra*, consisting of one syllabic instant, while the longer vowels like *ā*, *ī*, etc., have been called *dvimātra*. The diphthongs, sounding three such instants, have been called *trimātra*. The vowels have again been classified into two categories, viz. *dirgha* (long), i.e. *guru* and *laghu* (short), i.e. *hrasva*. The consonants have also been classified as *ghoṣa* (sonant), *anunāsika* (nasal) and *anta(h)-svara*. The term *ghoṣa* or sonant denotes all consonants, excepting the *anunāsika* and the *antaḥsvara* to be described presently. The *anunāsika* refers to the nasals, while the last category includes *y*, *r*, *l*, *v*, *s*, *ś*, *ṣ* (*s* is placed before *ś*), *h*, but in this sense the use of *antaḥsvara* is rare in the grammarika of India. In the Sanskrit grammar, the *antaḥsvara* denotes only *ya-ra-la-va*,² while *anunāsika* is usually denoted by *anusvara* as well as *ñ*, *ṇ*, *ṇ*, *n* and *m*. It will appear, therefore, that the svaravyañjana has not recognized the distinction between surds (i.e. *aghoṣa*: the first and second *varṇa* of the *vargas* and *ś*, *ṣ* and *s* or what is technically known as *khar*) and sonants. The Sanskrit authority for such classification may be searched in India. The consonants have also been classified under the headings of *mūrdhanya* (cerebral), *tālavya* (palatal), *dantya* (dental), *mahā-prāṇa* (aspirate) and *alpaprāṇa* (unaspirate). The terms for gutturals and labials could not be found by Gonda in the MSS. he consulted.³ The text also refers to *udantya* and *anudantya*, which respectively seem to stand for Skt. *Udātta* (highly accentuated) and *anudātta* (low sounding). The Old-Javanese explanation of the former term is: 'the *akṣaras* which when being pronounced sound high', while the latter term is explained as 'the syllable which sounds low, a fluttering of the tongue'.⁴ The Sanskrit technical terms were explained to the Indonesian learners by Old-Javanese explanations. This perhaps implies that the written and oral languages of the young learners, and hence of the people, were the same. The dissimilar position between Sanskrit and Prākṛt in India may be recalled in this connexion. In the text, the word *mūrdhanya*, for instance, has been explained as '*ikang akṣara mēḍala ing śiraḥ*', i.e. the sound of the word which emanates from the head or cerebral parts.⁵

After this the author has described the rules of Sanskrit sandhi. These rules have been grouped under what is called prakriya-sandhi: svarasandi,⁶ vyañjanasandi⁶ and visargasandhi. The compound prakriya-sandhi (= prakriyāsandhi) is an interesting compound formed in right Indonesian style omitting the Indonesian *ni* in between prakriyā and sandhi. In Sanskrit we should normally say sandhiprakriyā or sandhiprakaraṇa, i.e. the method of euphonic joining (of the final and initial sounds of words). Besides providing sandhi-rules, the author has also offered some interesting examples illustrating sandhi-rules. We thus read: *ikang ikāra dadi ya*,

¹ J. Kats, *Sang Hyang Kamahāyānikan*, 1910, pp. 53-55.

² *Ya-ra-la-va antaḥsthaḥ*. They are so called, because they are infixed between the *sparsavarṇa* and the *uṣṇavarṇa*.

³ *Op. cit.*, p. 105.

⁴ *Ibid.*

⁵ Sanskrit: *r̥turaśāṇām mūrdhā*.

⁶ The spelling should be: °*sandhi*.

i.e. the sound *i* will be transformed into *ya*, and in illustration of this he offers $ai + am > ayam$. According to Sanskrit grammar, it should have been $\bar{a}yam$, as Pāṇini's dictum¹ of $eco'yavayavah—ecah kramadayah av ay av ete syaraci$ dictates. The same dictum is applicable to the Javanese author's illustration of $bai + em > bayem$. The apparent deviation from Sanskrit rule is perhaps to be explained by the fact that in actual practice Old-Javanese hardly distinguishes between short and long vowels, except in the case of metres. Among other rules he cites: *ukāra dadi va*, i.e. the sound *u* will be transformed into *va* and in illustration of this dictum he cites the example of $va + u + i = vavi$. The writer has said that if *a* is followed by *u*, the resultant of the joint sound will be *o* and in illustration of this he has furnished our well-known example of $gaṅgā + udaka > gaṅgo-daka$. Among other examples we find $ka + ulah > kolah$. Gonda has truly observed that as part of the examples pertains to the pure Javanese vocabulary, it is evident that the author has tried to explain Sanskrit rule and examples by pointing to parallels in his own language and even by interpreting the latter, as if the words were Sanskrit. The application of Sanskrit *sandhi*-rules has also been observed in some charters of Java in the combination of the Old-Javanese honorific and the proper names.

In some MSS. of the *Svaravyañjana*, one comes across a section called *Kṛtabasa*, probably an abbreviation and corrupted form of *Samskṛtabhāṣā*. The text offers translations from Sanskrit to Old-Javanese, obviously in an attempt to make the young learners to learn Sanskrit. It is an exercise in bilingualism. We read thus: $saḥ vṛkṣaḥ = ikang kayu$. $Saḥ vṛkṣaḥ tiṣṭhati = lāgi yaḥ$. In translating the second Sanskrit sentence, the author has not thought it necessary to translate the first two terms, as these were translated under the first example. Another interesting specimen of the nature of this linguistic exercise may be offered from the text. It writes: $saḥ gajaḥ = ikang liman$, i.e. the elephant; $sinimbat iya$, i.e. it was hurt; $dening apa = by what?$ $saḥ vṛkṣaḥ : ikang kayu$, the (that) tree; $tena vṛkṣena$, $de nika sinimbat iya$, i.e. by that it was struck; $nipātitaḥ$, $tiba ya$: it fell; $saḥ gajaḥ abhivataḥ bhavati$, $siddha ya$: it is accomplished or done.²

The author has also offered some examples of neuter genders:

$tat kānanam = ikang alas$

$tat kānanam kusumitam = makambang iya$.

The translation is perfect, but interesting is the translation of $saḥ$ $latā$ by $ikā udvad$. Firstly, *saḥ* is to be read as *sā*. Secondly, Austronesian languages do not recognize any change due to gender, number or case. Accordingly the Old-Javanese word *ikā* can be explained either by thinking that the writer has introduced Sanskrit suffix *ā* into the Old-Javanese word to indicate gender, which would be rather unusual, or by thinking that since Old-Javanese does not recognize, in practice, the difference between *a* and *ā*, the use of the suffix *ā* in the word *ika* does not bear any special significance. He has also cited examples of instrumental cases (like: $tena vṛkṣena$) and plural numbers. Codex No. 4259 of the *Kṛtabasa* is partly a grammar and partly a lexicography. It deals, at its end, with some verbal forms. *About the verb *sthā*, it notes: $tiṣṭhati$, $tiṣṭhataḥ$, $tiṣṭhante$, but the plural number has been wrongly stated in place of $tiṣṭhanti$.

¹ 6.1.78 and Bhaṭṭoji's vṛtti thereon.

² Gonda, *op. cit.*, p. 106; see also Juynboll in *BKI*, 52, pp. 632 ff.

Codex No. 3173 (1) in the Library of the Leiden University has been described as *Ngalamat sērat sandhi sestra*.¹ *The Catalogue of Vreede* also refers to a *Sērat Sandhi Sutra*,² but details of these MSS. are not known to us. Some cosmogonical works have also referred to anungasvara (= anusvara) and vyañjana in certain portions of the text.³

A work which combines the functions of a grammar and lexicography is called *ekalavya*.⁴ At the commencement of the work, we read: om avighnam astu namaḥ siddham [Cod. 5140 (2)]. Van der Tuuk has stated⁵ that the name is probably an aberration from *ekalāpya*, but Gonda thinks it to be the corrupted form of *ekārthalabhya*.⁶ In both the cases, the meaning is the same, namely, to obtain the same meaning, i.e. synonyms. The text deals with words of identical syllables, e.g. bara, bari, baru, without considering the quantity of the vowels or the numerical value of letters; it also deals with synonyms for trees, metals, earth, water, clouds, stars, various gods, animals, parts of the body, mirror, house, boy, etc. In addition to these, the work also supplies a list of homonyms, such as sura: paṇḍita, sura: buṭa (i.e. bhūta), sura: devva (i.e. deva), sura: sajōng (Old-Jav.: spirituous liquor).⁷ There are also some other Old-Javanese works of lexicographical nature, of which *Ādisvara*, referred to earlier, is one. The spellings are corrupted, e.g. kṣiti has been written as siti, bhūtala as buṭala, bhāṣā as baṣa, etc. The spelling of kṣiti as siti is instructive, as it shows that the word was pronounced by Indians in ancient Java in the right way (i.e. as kṣiti and not as khiti, as we often pronounce in Bengal), but the Javanese author took the most important element of the word as was clearly audible.

Codex No. 4259 of the *Kṛtabasa* referred to above also partakes the nature of a lexicography. It begins with an enumeration of the names of Gaṇeśa, Varuṇa and other gods, furnishes the names of beasts, etc., a list of the various synonyms of words, such as samādhi, pūjā, vrata, ekacitta, etc. These are followed by a new list of the names of gods, in which we come across 29 names for Indra, 31 for the God of Fire, 27 for the God of Wind, 29 of Kāma, 48 of Moon. Then occur 59 synonyms for paṇḍita, 28 for bird, 48 for ulā or snake, 9 for Yama, 8 for Brhaspati, 29 for king. In Codex No. 5175,⁸ we get a list of the celestial damsels like Padma-mūrti, Tañjung Biru, Gagar Mayang and Sulasih. In this text and in Cod. 2049(5),⁹ we get 10 names of Moon (some in corrupt spellings), such as Saśi, Sitansu, Sasangaku, condra, vassanta, rati, sasadara, endung, pravañca and Tien. In the prose version of the *Cantakaparva*, we find in one part the explanation of the names of the Sun, the Moon, devas, 7 vidyādhari, etc. It also boasts of offering an explanation of 'all anecdotes'. As this text contains some Chinese and Arabic words, it does not appear to be a very old one.

The text *Sukṣmabasa* (i.e. Sukṣmabhāṣā) similarly furnishes a list of words and has offered an explanation of the names of some scriptures and

¹ Juynboll, *op. cit.*, p. 218.

² Vreede, *Catalogus van de Javaansche en Madoereesche handschriften der Leidsche Universiteits-bibliotheek*, 1892, pp. 362-63.

³ Gonda, *op. cit.*, p. 105.

⁴ Juynboll, *op. cit.*, Cod. 3906(1) and 5140(2).

⁵ KBNWB, I, p. 146.

⁶ Gonda, *op. cit.*, p. 125, f.n. 38.

⁷ The text has not been published. For summary see Gonda, *op. cit.*, p. 125, f.n. 38.

⁸ At the Library of the University of Leiden.

⁹ Vreede, *op. cit.*

mystical or metaphorical interpretation of names and facts occurring in sacred literary works.

In the famous Library at Jakarta, we have an Old-Javanese text of which the first part deals with metrics, while the second part is like a Sanskrit koṣa or dictionary.¹ The work is indifferently called *Caṇḍakiraṇa* or *Amaramālā*. The term *Caṇḍakiraṇa* may mean keen rays or be the corrupted form of *Chandaḥkiraṇa* (the rays of metres) or *Chandaḥkarana* (the making of metres). If the interpretation be correct, the nomenclature is at least partially justified, because the first part of the work deals with metres; the last part is something like a Skt. Śabdakoṣa or lexicography. In between is set a part wherein the name of *Amaramālā* occurs. It has been stated that the work was caused to be translated by king Jitendra of the Śailendra dynasty.² No king Jitendra of the Śailendra dynasty is known to us from any other source, but since the Śailendras ruled in Java from c. 750 to c. 850 A.D., this work might have been composed during this time. In this work, the synonyms have been enumerated in ślokas, but every series of synonyms is followed by a recapitulation in Old-Javanese. In this list, the synonyms of Deva, for example, have been furnished in the following way:

‘Amarās tridaśāḥ proktāḥ girvānā vivudhāḥ surāḥ |
vṛndārakā aditijāḥ nirjarā dānavadviṣāḥ ||
lekhāḥ svarvvāsino’hsvapnāḥ tridiveśāḥ sudhāśinaḥ |
devāḥ svargasadohmattyāḥ ṛbhavo’hmṛtapās tathā ||
āditeyāḥ sumanasāḥ suparvvāṇo divaukasāḥ |
devatās tāḥ striyāmuktāḥ ṣaṇḍhe’htha daivatāni ca ||’

If we compare this and similar other lists with those of the *Amarakoṣa*,³ it will be found that the serial order of words is not the same and there are new words in either lists, although the number of words is approximately the same. The second noteworthy point about the list is that the ślokas are followed by Old-Javanese explanations, e.g. the first of the ślokas quoted above has the following commentary: ngaran ing daivata ika kabeh, i.e. names of divinities (are) these all. The Sanskrit portion of the text then continues, in the usual way, followed by Old-Javanese explanations in the manner described above.

Kern invited attention to the word sudhāśin (lit.: feeding on sudhā, i.e. nectar) as against the synonym sudhābhuj in Hemacandra’s list. The component sudhā, however, occurs in such forms as sudhāpa, sudhāliḥ, sudhāśana in Sanskrit dictionaries.

The name of Śiva, as given in the Old-Javanese text, may also be furnished here:

Śivasarvvavirūpākṣāḥ mahādevo maheśvaraḥ |
śrikanṭhaḥ śaṅkaro bhargaḥ somadhṛt nīlalohitaḥ ||
kapardīca kṛttivāsāḥ rudro gaṅgādharaḥ haraḥ |
kr̥śānuretaḥ kāmāriḥ pinākī vṛṣaketanaḥ ||
dūrjjitis tryamvako bhimaḥ sarvajñaḥ giriśo mṛdhaḥ |
ugraḥ paśupatiḥ śūlī vāmadevo gaṇādhipaḥ ||
īśa īśvara īśanaḥ kapālī parameśvaraḥ |
śipiviṣṭo vyomakeśaḥ tripurāris trilocanaḥ ||
vṛṣabhadhvajaḥ kratu (dhvaṁsī bhūteśaś candrasekharah) |
śambhuḥ śarvo bhavaḥ sthāṇuḥ śūlabhṛt somabhṛd dharaḥ ||

¹ Kern, *VG*, IX, pp. 273 ff.; Juynboll, *op. cit.*, I, pp. 170 ff.; Gonda, *op. cit.*, p. 107.

² Krom in *Mededeelingen Amsterdam Academy*, LVIII, pp. 203 ff.

³ *Amarakoṣa*, 1.1.1, Colebrooke’s edition, 1808.

In this way, other ślokas have enlisted the names of Umā, Brahmā, Viṣṇu, Śrī, Buddha, Kuvera, Kāmadeva, etc.

It is interesting to observe that in the prose version of Brahmā's names, a list of the names of the Fire-God has been enumerated, though the writer ends by observing that all these names refer to Brahmā who was often connected with Fire in Java. This is true enough, as Old-Javanese inscriptions from Central Java testify.¹

The second section of the MS. contains a vocabulary in which the names of the months, parts of the body, objects like house, river, smoke, etc., together with their meanings, are systematically arranged. Besides, it contains lists having homonyms or words with a plurality of meanings, e.g. pāṇśu, kṣoda, reṇu, cūrṇa, dhuli = lēbu (Old-Jav.: dust), etc. It also explains a number of polysemous Old-Javanese words.² On account of the occurrence of Old-Javanese explanations or meanings given beside the Sanskrit text, it is obvious that these texts were used to facilitate the reading and writing of Old-Javanese texts.³

While discussing this work, Kern observed⁴ that the lists incorporate the names of those gods and goddesses who had attained prominence at the time of compilation of this work. Krom,⁵ however, believes that the lists may contain some names of Sanskrit origin which had not, at the time of compilation of the text, yet come into vogue in Java and that some of these names might have been interpolated into the text at a later date.

(b) PROSODY AND RHETORIC

From the study of Sanskrit grammars and lexicographies, as adapted in ancient Java, we may now turn our attention to the study of Sanskrit prosody and rhetoric as applied to Old-Javanese poetical works. As all Old-Javanese poetical works are coached, broadly speaking, in Sanskrit metres, it is obvious that there must have been Old-Javanese texts to deal with the same. Such indeed has been the case. An Old-Javanese text of this type is called *Vṛttasañcaya*. The title of the book and the name of the author are to be found at the colophon, where we read: *iti vṛttasañcaya, cakravākadūtacarita, Tanakung*. It is, however, difficult to say why the author selected a second name for this work. The name may recall the name of the immortal poem *Meghadūta* of Kālidāsa and other much less known dūta-kāvyas, but it is difficult to discover any analogy between the two, unless one thinks, in a flight of imagination, that the poets of India and Java who live on opposite shores of the ocean, just like traditional cakravāka-couple who are supposed to live on either shore of the lake during cruel nights,⁶ have met in common homage to Sanskrit metres, and this offering of Sanskrit metres has been made by Tanakung in the guise or role of a traditional Cakravāka. Be that as it may, the work is a highly interesting one; the text was edited by Friederich⁷ as early as 1849. Kern re-edited the text⁸ with translation and notes in 1875. In an introduction to this work Kern had observed that the source of this work was India

¹ Inscription of Kēmbang Arum, dated A.D. 902 in *OV*, 1925, Bijl. B, pp. 41-49; H. B. Sarkar, in *JGIS*, V (1938).

² Gonda, *op. cit.*, p. 107.

³ *Ibid.*

⁴ *Op. cit.*, p. 281.

⁵ *Hindoe-Javaansche Geschiedenis*, 1931, p. 151.

⁶ It will appear from quotation, given below, that this tradition was known to Old-Javanese poets.

⁷ In the *VBG* dl. XXII.

⁸ Reprinted in *VG*, IX, pp. 67 ff.

and that the rules of metre were drawn up in the pattern of sūtras for aid of memory, as in Pāṇini. The author's knowledge of Sanskrit has, however, been questioned by Gonda,¹ who says: 'It is, however, far from likely that Tanakung who inserted corrupted Sanskrit forms in his work read the original Indian texts.' This implies—if the view of Gonda be correct—that Tanakung used another Old-Javanese work which dealt with Piṅgala's *Chandaḥsūtra* but was of inferior quality and accordingly soon went out of use. In any case, it is possible that the Sanskrit model for the work of Tanakung may one day be discovered in India. The author has indeed referred to the name of Rāmaśarman in the 4th śloka and those of Piṅgala and *Piṅgalaśāstra* in the 7th and 109th ślokas respectively. Rāmaśarman is an Indian author on metrics and the reference to *Piṅgalaśāstra* might tempt one to affiliate the work to the Sanskrit *Piṅgalachandaḥsūtra* of India. A *Piṅgalakoṣa* is said to have been composed by the sage Piṅgala who made discourses in the guise of a nāga. As the names *Piṅgalakoṣa* and *Piṅgalachandaḥsūtra* are similar, it may be conjectured that the two works might be identical, but Kern,² after a comparison of the *Vṛttasañcaya* with the *Piṅgalachandaḥsūtra* and Kedāra's *Vṛttaratnākara*, came to the conclusion that these works are not interconnected. We know that Yādavaprakāśa, originally a guru of the great philosopher Rāmānuja and later on his disciple, was a famous annotator of the *Piṅgalachandaḥsūtra*. The *Bhāṣyarājatīkā* of Yādavaprakāśa and the *Mṛtasañjīvanī* of Halāyudha are contemporaneous works, but the *ṭīkā* of Yādavaprakāśa has shown greater competence in both Vedic and classical metres. Consequently we may hold the view that a more reliable text of the *Piṅgalachandaḥsūtra* has been reflected in the *ṭīkā* of Yādavaprakāśa. If this *ṭīkā* is published, it will provide us with another opportunity to compare the text of the *Vṛttasañcaya* with that of *Piṅgalachandaḥsūtra*. I may invite the attention of the Indian Sanskritists to this field of research work. It may be stated in this connexion that the *Vṛttasañcaya* has dealt with *vṛttas* or metres containing a fixed number of syllables; it does not deal with *mātrāchandas* (metres measured by the number of prosodical instants) and *gaṇachandas* (metres measured by feet).

In the portion of the text where the theories or sūtras have been discussed, the author has furnished us with names of different classes of metres extending from 4×1 feet to 4×27 feet. The theories have been described in stanzas 3–8, while the examples or model stanzas run from 9 to 108. Of these stanzas, Nos. 104, 105, 106 and 107 are illustrations of the metres discussed in the earlier section of the work. We thus get 96 pure Sanskrit metres discussed here. The author has even discussed the *daṇḍaka*-metre which sounds like half-prose and half-verse. Gonda has drawn our attention to the fact that an Old-Javanese *kakavin*-metre which has not been given any specific name occurs in this work. He has cited stanza Nos. 8, 109 and 111 as example and has observed that it may be described as a kind of *vikṛti* and is sometimes met with in the Old-Javanese *kakavins*. It might have been the intention of the author to modify the Sanskrit metres to a certain extent, by addition or alteration, and create new types of metres, as the one referred to above.³

Besides the *Vṛttasañcaya*, other books on prosody were also composed in Java. One of them is called the *Vṛttāyana*. Unfortunately the text has not yet been published. It has discussed metres like *vṛṣabhagativilasita*,

¹ *Op. cit.*, p. 108.

² *Op. cit.*, pp. 95 ff.

³ Cf. Gonda, *op. cit.*, p. 126, f.n. 46.

maṇigūṇanikara and other metres.¹ The metres dealt with in the *Cantakaparva*² are somewhat different from those discussed in the *Vṛttasaṁcaya*.

It must not be imagined that such works in Sanskrit metrics constituted an exercise in futility. As a matter of fact the kakavins or Old-Javanese poems have liberally utilized the Sanskrit metres for the composition of their works. If one studies the MSS. of the kakavins, it will appear that the name of the Sanskrit metre used in a particular sarga has often been mentioned in the body of the text in that sarga. The syllables of each pāda do not always conform to the Sanskrit rule, but these defects may be due either to the insufficient comprehension of the Sanskrit rules or due to the poor knowledge of the copyists of MSS. In some cases at least, such copyists have made mistakes regarding the name of the metres, e.g. Praviralalita in the place of Pravaralalita, Sapratitala instead of Prthvītala, Svaladara for Sragdharā, etc.³ In some MSS., we come across the names of metres composed in Java. For example, the second canto of the *Arjuna-vivāha* has been written in the Sanskrit Vikṛti-metre, but in a Javanese MS. of that work the name has been written as Vēgang Sulañjari.⁴ I. G. P. Djilantik has given further examples of such corrupted forms from a Balinese summary of the Indian metres used in the *Nāgarakṛtāgama* (fourteenth century A.D.).⁵ In connexion with the discussion on metres, Gonda⁶ has invited our attention to the interesting fact that 'the Sanskrit term Śloka, a stanza, especially a particular kind of common epic metre consisting of four quarters of eight syllables each, has been preserved in Sundanese where siloka, which is no doubt the identical word, denotes "apothegms, metaphorical sayings, especially when dealing with esoteric or religious lore"; it seems, however, to apply in a more particular way to texts composed in the pantun style, i.e. in that kind of literary form which is neither prose nor poetry, but historically speaking preceding both, consists of shorter or longer series of free rhythmic unities from about 7 to about 16 syllables (in Sundanese unities of 8 or of about 8 syllables are preferred), and which can be called by the Latin name, carmen style. In a comparable way the Sanskrit pāda "the fourth part of a regular stanza" has been preserved in Javanese and Sundanese to denote a stanza as well as a punctuation mark or stop between two lines of a stanza, between two stanzas or at the end of a phrase or sentence.'

It is noteworthy that the Old-Javanese poets have usually commenced their works, like their Indian counterparts, with a svastivacana or maṅgalā-carana, i.e. with words of benediction or well-being for all. This custom has been enunciated in the *Sāhityadarpana* as: *ādaṁ namaskriyāśīrvā vastunirdeśa eva vā*. Accordingly, many Old-Javanese works, written in prose or poetry, and even some inscriptions, have begun their work with 'om avighnam astu'. Immediately thereafter, homage has been paid to gods like Śiva, Sarasvatī, Buddha, Gaṇeśa or other deities. From this point of view, the beginning of the *Raghuvamśa* and the *Mudrārākṣasa*, for instance, may be compared with the beginning of the *Nāgarakṛtāgama* and many other works. C. Hooykaas has observed⁷ that, excepting the Old-Javanese *Rāmāyaṇa*, 'other Old-Javanese kakavins, as far as known

¹ Cf. Gonda., *op. cit.*, p. 108.

² Juynboll, *op. cit.*, II, cod. 4575.

³ See Kern, *op. cit.*, pp. 75 ff.; Gonda, *op. cit.*, p. 108.

⁴ Kern, *Kawi-Studien*, 1871, p. 100; Gonda, *op. cit.*, pp. 108-9.

⁵ *BKI*, LXXXI (1925), pp. 116 ff.; Gonda, *op. cit.*, p. 109.

⁶ *Op. cit.*, p. 109.

⁷ *VKI*, 16 (1955), pp. 19-20.

to me, without exception, have their initial maṅgala and an intricate one too! thereby proving that their poets were not inspired by Yogīśvara's *Rāmāyaṇa* only, but must have been conversant either with Indian poetics or with Indian kāvyas, or possibly with both of them.' The practice of maṅgalācaraṇa has been observed not only in the beginning of Old-Javanese poems, but also sometimes at the end. The Old-Javanese poetical works like the *Kṛṣṇāntaka* and the *Nāgarakṛtāgama*, for instance, may be cited as illustrations. Sometimes the poets, both in India and Java, have furnished particulars about themselves or their family in the works they have composed. We may refer, in this connexion, to the *Arjunavivāha* of poet Mpu Kanva, the *Nāgarakṛtāgama* of the poet Prapañca, the *Śiśupālavadha* of Māgha, the *Harṣacarita* of Bāṇa, etc.

In writing the Old-Javanese poems, the authors have liberally utilized Sanskrit metres of the widest varieties ranging from 8 syllables in a quarter to 25 syllables in a quarter. The poets have sometimes followed the dictum: *ekavṛttamayaiḥ padyaiḥ, avasane'hnyavṛttakaiḥ*. It may be admitted that although its universal application would have fulfilled the desires of the Sanskrit theoreticians, this has not been done. The monometric sargas have been illustrated in 188 cantos of the *Bhōmakāvya*, 54 cantos of the *Harivaṁśa*, 40 cantos of the *Smaradahaṇa*, 36 cantos of the *Arjunavivāha*, 52 cantos of the *Bhāratayuddha* and 98 cantos of the *Nāgarakṛtāgama*. In this respect they differ from the 25 polymetric (canto 5 is in monometric Rajanī-metre) cantos of the Old-Javanese *Rāmāyaṇa*, but if we agree that this deviation is due to the fact that the Old-Javanese *Rāmāyaṇa* was designed to teach the rules of Sanskrit versification, as proposed by C. Hooykaas¹ and with which I agree, this deviation may be excused. Polymetric cantos, from a structural point of view, may not, therefore, be adduced as reasons to distinguish the Old-Javanese *Rāmāyaṇa* from other Old-Javanese kakavins.

How defiant Yogīśvara, the author of the Old-Javanese *Rāmāyaṇa*, has been in executing the dictum of the Sanskrit theoreticians may be realized from the fact that while he has used different metres at the end of the first and the second cantos, he has used several different metres at the end of almost every other canto. In India, deviations have no doubt been observed, for instance, in the 6th, 11th and 19th cantos of the *Raghuvamśa*, 3rd, 4th, 14th, 16th and 17th cantos of the *Kumārasambhava*, 1st, 4th, 6th, 11th and 14th cantos of the *Kirātārjunīyam*, the 1st, 7th, 15th and 20th cantos of the *Śiśupālavadha*, etc.,² but the extent of this deviation in the work of Yogīśvara has surpassed anything found in the mahākāvyas of India. It seems likely that both parts of the Sanskrit dictum referred to above were followed in the early Sanskrit poems of India, but in course of time all rules of discipline in this regard were thrown to the winds. It may be remarked in passing that, of all the metres used in the final stanzas of the major poetical works in India, Mālinī and Mandākrāntā appear to be the most popular ones, and they have also retained their popularity in the Old-Javanese *Rāmāyaṇa*, where 19 different conclusive metres have been used, but Mālinī and Mandākrāntā have been used most often. The total number of different Sanskrit metres used in the Old-Javanese *Rāmāyaṇa* is 81.

C. Hooykaas who has made an admirable study of the Old-Javanese *Rāmāyaṇa*, with special reference to the problem of interpolation in kakavins,

¹ VKI. 16 (1955), p. 28. The poem might have been designed not only to teach prosody but also rhetoric, as the wealth of examples in the latter respect is also immense.

² Ibid., pp. 25-30.

has observed that the 'O.-J. *Rāmāyaṇa* has some 268 metrical changes in 2,774 stanzas, *Bhōmakāvya* has some 118 cantos = 117 metrical changes in 1,375 stanzas. The average is more or less the same. The picture of the monometric passages offers a striking resemblance. But *Bhōmakāvya* shows no longer a trace of the sarga-structure; this was already in decadence in OJR, and seems never to have taken solid root on Javanese soil. There are still one-stanza cantos, 10 two-stanza cantos—queer cantos indeed—apparently the remainder of (a) former conclusive or intermediary stanza(s). These separate stanzas soon became obsolete; *Harivaṃśa*, *Smaradahana* and *Arjunavivāha* still have a few of them, but that passes'.¹

Whether one agrees with this view or not, the fact remains that canto divisions have run down almost to the last days of Majapahitan greatness and have been a persistent factor in the poetical compositions of ancient Java. In the literary history of India, the mahākāvyas had their day and ultimately went out of fashion. The phenomenon observed in Java may have a similar beginning and a similar period of decline: it may or may not have anything to do with the process of acculturation.

The employment of Sanskrit metres in an Austronesian language is thus highly interesting and would be a rewarding study for the Indian Sanskritists. The use of a Sanskrit metre to an Old-Javanese stanza may be illustrated below for a practical demonstration.

The metre is Bhujāṅgaprayāta and the rule is: Bhujāṅgaprayātam caturbhīryakāraiḥ, i.e. — — — — —

We take the stanza from the *Brahmāṇḍapurāṇa* Kakavin:

ya ya
— — — — —
anēṅ nēriti pwa

ya ya
— — — — —
gunung mās arunyā

ya ya
— — — — —
ya tā cangkrama śrī

ya ya
— — — — —
karing muñcavān mās

ya ya
— — — — —
sakēṅ parvvatāgōṅg

ya ya
— — — — —
ngaranyā suteja

ya ya
— — — — —
mahānīlakaṇṭhā

ya ya
— — — — —
pucaknyātiśobha

From the discussion made above, it must have been abundantly clear that the Old-Javanese authors, whatever their defects from the viewpoint of strict rules of Sanskrit metres, have shown remarkable resilience in the employment of Sanskrit metres to Old-Javanese language. The Old-Javanese authors, however, enjoyed an advantage which was denied to the Sanskrit authors. The rules of Sanskrit metres are exceptionally rigid, and if one or two words be missing from a pāda we can restore the missing words with considerable success, because, unlike in Old-Javanese, the short and long syllables of Sanskrit metres must follow a particular pattern. Words of such syllabic value may easily fill up the lacunae. In Old-Javanese, we may lengthen or contract a sound and in appropriate cases even delete a letter to meet the exigencies of the metre. Take for example the Old-Javanese word *Hēmas* meaning gold. To suit the demands of the metre we can read the word *Hēmas* as *Emas*, *mās* or *mas*. The ha

¹ VKI, 16 (1955), p. 37.

infix or prefix may also be elided in certain cases. Such latitude is not at all possible in Sanskrit.¹

Not only in prosody, but also in the realm of alamkāra or literary embellishments have Old-Javanese poets shown their talents. Many of them have created a new world of light and colour by judicious employment of Sanskrit alamkāra like anuprāsa, yamaka, apanhuti, upamā, rūpaka, śleṣa, etc. It is true that stylistic devices, such as upamā, rūpaka, anuprāsa, utprekṣā, atīśayokti and alamkāras of similar strain, have a universal appeal, but, since the Javanese authors have liberally borrowed from Sanskrit prosody and special types of Sanskrit rhetoric, the presumption is that the non-special or conventional types of rhetoric might have also been derived from the Sanskrit authors. C. Hooykaas has observed: 'It remains to be investigated whether Daṇḍin or one of his colleagues was a source of inspiration and normalization for the Javanese poets; also what they borrowed and what they rejected.'

Yogīśvara, the author of the Old-Javanese *Rāmāyaṇa*, whose original name, according to Balinese tradition, was Rājakuṣuma or Kuṣumavicitra, was not only a master in the field of Sanskrit versification but also a remarkable artist in the use of Sanskrit rhetoric. We may cull an example of Sanskrit anuprāsa from his *Rāmāyaṇa*. In the 5th canto of his work we read: vika śuci suddha saiva śira sātvikasanta, etc., but this example, or indeed any that the Javanese poets can supply, has been surpassed by one of their compatriots, a Javanese author from the fourteenth century. Thus writes poet Prapañca (canto 96, metre: *Vipulāvaktṛa*):

Prapañca pracacaḥ pañca, pracacad/pocapan/cēcēd
prapōngpōng pipi puce prēm pracongcong cēt pacēhpacēḥ
tan/tatatīta tan tutēn tan tētēs tan tut ing tutur
titik/tantrī tateng tatva, tuhun/tāmtām/titir ttitiḥ

Numerous examples can be culled from the *Sisūpālavadha* and other Sanskrit works of India. We do not know what the boastful Ghāṭakarpara, who took special delight in the composition of anuprāsa, would have said, had he read this work.

The Old-Javanese poets have also used yamaka with remarkable effect. According to the *Kāvyaḍarśa*,² the yamakas may be used at the beginning, middle or end of the strophes. In 1955, C. Hooykaas had examined 80 yamakas in cantos XVI, XVII, XIX, XXI, XXIII-XXVI of the Old-Javanese *Rāmāyaṇa*. Aichele, who pioneered the study of Sanskrit alamkāra as employed in Old-Javanese poems, in 1926, has not only discussed the use of anuprāsa and yamaka by Old-Javanese authors, but has also illustrated the use of upamā, rūpaka, utprekṣā and apanhuti (nihnuti).

From the viewpoint of artistry, I could not find a better example of yamaka than the one proffered by Mpu Dharmaja in his *Smaradahana*,³ which has fulfilled all the conditions of Daṇḍin in one illustration.

He writes:

'Rēmbang-rēmbang apantaran kalihibēn
pāng pung pakis pangag/rēmbat
nampu kajar-kajar kamumu lēn
sung-sung guyunyāngis/nkāne dūnya
savaḥ kapaṅgih alangō lvaḥ gung gung
akvēḥ pakis/sarvvecchāvikūṭak taluktak
akituk syōk syōk dhvaninyāngētēk'

¹ Cf. in this connexion C. Hooykaas in *Indisch-Indonesische poezie*.

² 1/61.

³ Ed. Poerbatjaraka, *Smaradahana*, Bibliotheca Javanica, No. 3, 1931, p. 28.

In the example cited above, the use of *rĕmbang*, *kajar*, *sung*, *gung* and *syök*, each one in doubles, may remind one of numerous similar examples provided in Sanskrit literature. Even an example of *sandaṣṭa yamaka*, in which the first word of a *pāda* begins with the last word of the preceding *pāda*, has been provided in the Old-Javanese *Rāmāyaṇa*.¹ There are about 12 such examples in OJK.

‘sakvĕh nikanj talaga tan hana tanpa *tuñjung*;
tuñjungnya tan hana kurang pada mĕsi *kumbang*;
kumbangnya kapva muni tan hana tanpa *śabda*;
śabdanya karnasukha tan hana tan manojña’

The Old-Javanese stanza cited above is an exact translation of the following *śloka* of the *Bhaṭṭi-kāvya*, which also offers an example, though not exquisite, of the *sandaṣṭa yamaka*. The *śloka* runs as follows:

‘na tajjalam yanna sucarupaṇkajam
 na *paṇkajam* tad yad alinaṣaṭpadam
 na *ṣaṭpado*’sau na juguñja yaḥ kalam
 na guñjitaṃ tanna jahāra yan manah’²

In some places, the Sanskrit and Old-Javanese authors have used the last letters of the preceding words to start the following words to create musical effect on the ears. One may recall in this connexion the beautiful verse of the *Gītagovinda*³: *mṛgamada-saurabha-rabhasa-vasaṃvada-nava-dalamāla-tamāle*, which we can compare, for example, with a verse of the *Nāgarakṛtāgama*: *tama sansara ring gatyā tyāga ring rasa sanmata*. The use of *rabha* in Sanskrit and *tyā* in the Old-Javanese had the same end in view, viz. to create music by the judicious use of word-sounds. The Old-Javanese verse has another characteristic: the second half of the verse, if read in a reverse direction, will be the same as the first part of the verse. It seems that the Old-Javanese poets have swum swan-like in the sea of Sanskrit *alamkāra*, just as they have done in the domain of Sanskrit *chandaḥs*. Even highly technical *alamkāras*, like *apanhuti*, for instance, have been brought within the ken of their experimentation, of which a beautiful example has been culled by Aichele⁴ from the *Rāmāyaṇa* of Yogīśvara:

‘śabda ning bhramara matta ya apuya
 yak rĕngö ya mahuyang hati mapanas
 tulya parvvata se dĕng matunu muruva’.

Gonda⁵ has cited a beautiful example of *śleṣa* from the Old-Javanese *Harivaṃśa*.⁶ In this *alamkāra*, the words are grouped in such a way that it may convey double or contrasted ideas. We quote from him an extract in full, on account of his enunciation of the difficulties attending the use of such *alamkāra*. He says:

‘This merit of artificial composition was also readily imitated by the Javanese authors. Their *śleṣa* add no little to the difficulties presented by many passages in their works. Not infrequently we grope in the dark as to the poet’s intentions. Did he mean to express himself in an ambiguous way or to express two ideas, to relate two occurrences, at the same

¹ 2/19.

² 2/19.

³ 1/3.

⁴ *OLZ*, 29 (1926), p. 937.

⁵ *Op. cit.*, p. 398.

⁶ 2/10.

time, or do we not understand what he wrote because of our incomplete knowledge of the Old-Javanese idiom? Thus *Harivaṃśa*, 2.10, where a high audience-hall is, in a long simile, compared with a mountain of fire—its roof consisted of gold and jewels were used as building stones—the poet takes the liberty of adding that the clouds constituted resting places in the realm of wind: *rantun-rantunan ing ghanājajar aniṅgilis i nagara ning samīraṇa* (lit. “the resting places of the clouds stood in rows, in the realm of the wind”). We do well to remember that in Old-Javanese the Sanskrit loans *ghana* “cloud” and Sanskrit *gaṇa* “crowd, retinue” had become homonyms which for reasons of śleṣa or other stylistic devices might be interchanged. So we can interpret *ghana* also as *gaṇa* and conclude that the poet would give us to understand that the audience-hall had resting places for the persons dependent on the ruler of Dvāravatī. Very often it is not clear which words must be understood a double entente and what portion of a verse is free from premeditated ambiguousness. When the word *aśoka* (Sanskrit: *Aśoka*), the name of the well-known tree, the *Jonesia asoka*, the name of which suggests the idea of “being free from sorrow” is used in twofold sense, does it mean that other polyvalent words in the same passage form part of the śleṣa? And does an author, when speaking of a “golden terrace”, *suvarṇabhūmi*, hint at the well-known geographical name *Suvarṇabhūmi*, this Sanskrit term being capable of double interpretation?

We may now refer to the occurrence of similes and metaphors in the Old-Javanese poems. We read in the *Bhāratayuddha* kakavin composed in A.D. 1157:

Uruk varnani vandiraniya kadi śoka
makēmoli pingala ling priya

i.e. the dambaru-tree looks pale like a pining wife separated from her husband.

A similar idea has been expressed in the *Nāgarakṛtāgama*:¹

Lwir stryagring angranēhi rāgi molm ikanang cavintēn avnēs, i.e. the pale caviri-trees there wore the aspect of women, ailing, declining, lovesick, wilted.

Here pining women have been compared to pale-trees. Perhaps Sanskrit poets would have liked better to compare such women with drooping or pale creepers. Kālidāsa, for example, has written, while describing the Hemanta-season, in his *Rtusamhāra* (10):

‘Priye! priyaṅguḥ priyaviprayuktā vipāṇḍutām yāti vilāsinīva.’ ‘Dear, the priyaṅgu-creeper has worn the sad appearance of a belle separated from her dear one.’

Such ideas are found in abundance in Sanskrit literature and we may refer to the *Ratnāvalī*,² *Meghadūta*,³ *Raghuvamśa*⁴ and other poems. Not only in the matter of describing pangs of separation, but also in offering descriptions of feminine beauty, poets have thought alike. In the Old-Javanese *Rāmāyaṇa* (12.38), the poet has described the eyebrows as bows and the eyelashes as plumes of arrows. Do not these things remind us of *Śṛṅgāratilaka* (14), *Kumārasambhava* (1.47) and *Gītagovinda* (3.3), among a host of others? Kālidāsa has stated in one place: this girl is like a hunter, her eyebrows are like the bows, her glances are like the arrows: ah! my

¹ 37/5.

² 2/3.

³ *Uttaramegha*, 22.

⁴ 14/1.

mind has become, as it were, a deer. For similar or cognate expressions we may turn to *Meghadūta* (Pūrvamegha, 27 and Uttaramegha, 2.11), *Raghuvamśa* (16.48; 13.49; 9.28; 16.59; 7.27), *Mālavikāgnimitra*, 3.125; *Kumārasambhava*, 7.20 and 7.59; *Ratnāvalī*, 1.11; *Gītagovinda*, 3.5, etc. In the Old-Javanese *Rāmāyaṇa*, the king has been compared to the wishing tree;¹ in the *Tantu Panggĕlaran*,² the mother of Kumāra has been honoured with the same designation. Such descriptions are abounding in Sanskrit literature, specially in the *Purāṇas* and epic literature.

We now offer below a beautiful example of saṁśayopamā from the *Bhāratayuddha*,³ a kakavin written in A.D. 1157:

‘Ēndah lvir mahurup langö gagana lĕn bhūmī,
sĕdĕng ning kulĕm
kayvan yāngdadi megha megha matĕmah kayvan
hidĕp ning mangö
vintang kĕmbang kĕmbang angjrah atĕmah vintang
hanĕng amvara
luāhnyādadyam urut mahā ng urut adadyan
luaḥ larinyālaris—’

i.e. Beautiful! How the beauty of the Heaven and Earth reflects on each other in night. The forests (cast their shadows) on the clouds, the clouds (cast their shadows) on the forests—thus it appears to the poet. Can it be that the stars are flowers? The flowers scatter themselves hither and thither and transform themselves into the flowers of heaven. The rivers strike for the clouds, the clouds for the rivers—.

Daṇḍin in his *Kāvyaḍarśa* has elaborately described alamkāra (prosodical figures), mādhyā (the quality of sweetness) and bhāvika (vivid description) and numerous examples of these may be cited from Sanskrit and Old-Javanese literature. A striking example in the realm of ideas has been provided by the following stanza from the Old-Javanese *Arjuna-vivāha* kakavin.⁴ The metre is *Indravamśa*:

‘Sāmara divā-ratrinikāṅg surālaya
dĕning prakāśātmaka sarvva bhāsvara
anghing sĕkarning kumudājaring kulĕm
muāṅg cakravākān pāpasah lavana priya’

The poet says that in the Heaven, the difference between days and nights is not discernible, because luminous objects are scattering light. Only the night-lotuses are announcing that it is night; the cakravāka-birds, separated from their dear consorts, are announcing that it is night.

This stanza would certainly remind one of the famous verses of the *Udbhaṭasāgara*⁵:

‘ghanatara ghanavṛndācchādite vyomaloke
dinamaṇi-rajaniśau nāmamātrāvaśeṣau |
divasa-rajanibhedam mandavātāḥ śaśamsuḥ
kamala-kumuda-gandhān āharantaḥ kramena ||’

We may now present a description of the arrival of Kṛṣṇa at the court of the Kurus, as described by Mpu Sĕdah, author of the *Bhāratayuddha*.⁶

¹ 6/148.

² Pigeaud, *Tantu Panggĕlaran*, pp. 72, 143.

³ *OLZ*, 29 (1926), p. 938.

⁴ 9/113 in *BKI*, 1926, p. 210.

⁵ Ed. Pūrṇacandra De, 3/228.

⁶ 23-26.

It has been described that the people are rushing madly to see him; some of them could not put on their dress properly; some started moving, while combing their hair; some left off their toilette and started running, or moved with mirror and paint-brushes in hand. Their garlands remained unfinished, nay, their dresses fell down on the road.

This description may remind one of the svayamvara-ceremony of Aja,¹ where the poet has vividly narrated how the women ran to the windows to see Aja, their hair-tresses became dishevelled and garlands tore off, their toilette remained incomplete and they ran with paint-brushes to see the prince; their dresses and ornaments fell on the way.

Similar scenes have been described in the *Buddhacarita* of Aśvaghoṣa,² *Śiṣupālavadha* of Māgha,³ the *Kādambarī* of Bāṇabhaṭṭa,⁴ the *Kumārasambhava* of Kālidāsa⁵ and others. It is not probable that Mpu Sēdah had read the Sanskrit texts referred to above. Then one has to answer why this striking similarity has occurred in the Old-Javanese work? May we not believe that by the twelfth century, such description had already become stereotyped in India and had, in that form, reached the isles of Indonesia in the wake of Sanskrit language and literature.

The foregoing pages must have made it abundantly clear that there is a vast field for the study of Old-Javanese literature from the viewpoint of Sanskrit grammar, lexicography, prosody and rhetoric. As I have stated at the beginning of this paper, its aim is not primarily to do a piece of research-work on this subject but to invite the attention of Indian Sanskritists, once again, to the vast field of this research-work where they can fruitfully continue the valuable work initiated by the Dutch and Indonesian scholars, notably by Kern, Aichele, Djilantik, Poerbatjaraka, S. Levi, Gonda and C. Hooykaas. The works of these scholars are not extensive, but they may serve as valuable introduction to the subject.

ABBREVIATIONS

- BKI*—Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indie.
 Indian influences—H. B. Sarkar, Indian influences on the literature of Java and Bali, 1934.
JGIS—Journal of the Greater India Society.
KBNWB—H. N. van der Tuuk, Kawi-Balinesesch-Nederlandsch Woordenboek, four volumes.
OLZ—Orientalistische Literatur Zeitung.
OV—Oudheidkundige Verslag.
 Supplement—H. H. Juynboll, Supplement op den Catalogus van de Javaansche en Madoereesche Handschriften der Leidsche Universiteits-Bibliotheek, Vol. I, 1907; Vol. II, 1911.
TBG—Tijdschrift voor Indische Taal-, Land- en Volkenkunde van het Bataviaasch Genootschap van kunsten en wetenschappen.
VBG—Verhandelingen van het Bataviaasch Genootschap van kunsten en wetenschappen.
VG—Kern, Verspreide Geschriften, Vols. 1-15.
VKI—Verhandelingen van het Koninklijk Instituut.

¹ Cf. *Raghuvamśa*, 7/5-13; *Kumārasambhava*, 1/4.

² Canto III.

³ Canto XII.

⁴ Ed. K. N. Pandurang Parab, 1928, pp. 164 ff.

⁵ 7/56-62.

SOME REFERENCES TO ANIMAL HUNTING IN ANCIENT SANSKRIT LITERATURE

By APARNA CHATTOPADHYAY

(Received January 5, 1967)

The *Kathāsaritsāgara* of Somadeva provides us with some interesting material about hunting, a regular sport for the royalties in ancient and early medieval India. It is the chief outdoor recreation of the royalties in the *Kathāsaritsāgara*.

A study of the references¹ to hunting in the *Rgveda* leads one to the conclusion, drawn by eminent scholars, that hunting played a considerable part in the life of the Rgvedic Aryans² who indulged in it for livelihood, sport and protection of flock from the wild beasts.³

Hunting was as much a sport in the age of the Buddha⁴ as in the Maurya Age.⁵ Megasthenes provides us with a graphic and glorious picture of a royal hunting party.⁶ The royal hunt was temporarily abolished by Aśoka in 259 B.C.⁷ In the *Arthasāstra*,⁸ in the epics⁹ and in *Manu*¹⁰ the importance of hunting is noticed. The love of hunting of the Imperial Guptas is preserved in their coins.¹¹ In Kālidāsa¹² hunting is a regular royal pastime. As we pass on to the age of Harṣa we find the young prince Harṣa happily engaged in hunting in the wood, while his elder brother was fighting with the Hūnas in the north-western frontier.¹³

In the *Kathāsaritsāgara* we find description of the hunting expeditions of king Udayana of Kauśāmbī,¹⁴ prince Vajramukuta of Vārāṇasī,¹⁵ prince Naravāhanadatta,¹⁶ king Candrāvaloka of Citrakūṭa,¹⁷ king Lakṣadatta of Lakṣapura¹⁸ and king Vikramāditya of Ujjayinī.¹⁹

HUNTING PARTY

A royal hunting party consisted of huntsmen, hunting dogs, horses and footmen. The royal hunter rode on an elephant. When the party

¹ R.V., I, 125, 2; II, 42, 2; V, 15, 3; V, 74, 4; IX, 83, 4; X, 86, 4; 51, 6; 28, 10; 81, 61. *Vedic Index*, Vol. II, p. 173.

² *Cambridge History of India*, Vol. I, p. 100.

³ R. K. Mookerji, *Hindu Civilization*, pt. I, p. 76. A. C. Das, *Rgvedic Culture*, pp. 221-22. *The Vedic Age*, p. 398.

⁴ *Jātaka*, No. 537.

⁵ Rock Edict, VIII.

⁶ Megasthenes, *Fragm.* XXXII.

⁷ V. A. Smith, *Early History of India*, p. 129.

⁸ *Arthasāstra*, Bk. VIII, Ch. III.

⁹ *Mbh.*, Anuśāsanaparva, 116, 15; Vanaparva, 50, 7; *Rāmāyaṇa*, Ayodhyākāṇḍa, 18, 37, 40.

¹⁰ *Manu*, VII, 47-50.

¹¹ Allan, *Catalogue of the Gupta Coins in the British Museum*.

¹² *Raghu*, IX, 46-47; *Sak.*, Act II.

¹³ *Harṣacarita*, English Trans. by Cowell & Thomas, p. 132.

¹⁴ *Kss.*, XXI, 11-16.

¹⁵ *Kss.*, LXXV, 64-65.

¹⁶ *Kss.*, XLII, 2-7.

¹⁷ *Kss.*, XCIV, 8-14.

¹⁸ *Kss.*, LIII, 15-18.

¹⁹ *Kss.*, CXXII, 7-18.

encamped in a spot, nets were pitched up on all sides and heaven resounded with the shouts of joyous huntsmen. Such is the description that we find in the hunting party of king Vikramasimha.¹

Hunting dogs

In the *Kathāsaritsāgara*, we find, king Udayana employing dogs in the ravines while out on hunting.² The practice of employing dogs is as old as the Rgvedic Age. We find dogs mentioned in the *Rgveda* in the description of the capture of a boar in chase.³ The excellent training given to dogs, for the purpose of hunting by Indians, impressed the Greeks including Alexander himself.⁴ Hunting dogs are mentioned in Kālidāsa.⁵ In the description of the hunting expedition of the Cāhamāna kings of Ranastambhapura, fleet hunting dogs with golden necklaces are found in the *Hammīra Mahākāvya*.⁶ In the *Mānasollāsa* the employment of trained dogs in hunting is mentioned.⁷ In the *Rājataranginī* we notice hunting dogs in the description of royal hunting.⁸

Nets

In the *Kathāsaritsāgara* nets are mentioned in the description of the hunting party of king Vikramasimha⁹ and also are described as being laid in the glades by king Udayana.¹⁰ Nets were used in hunting in the *Rgveda*¹¹ and are found in Kālidāsa.¹²

Huntsmen

The huntsmen usually accompanied the royal hunter specially if it was a regular hunting expedition. Thus we find kings Vikramasimha,¹³ Udayana¹⁴ and Candrāvaloka¹⁵ accompanied by huntsmen. In Kālidāsa we find forest-surrounders.¹⁶ In the *Kathāsaritsāgara* we notice that king Udayana, a great lover of hunting, used to station scouts in forest to watch and inform him about games.¹⁷

Footmen, mentioned in the hunting party of king Vikramasimha of the *Kathāsaritsāgara*,¹⁸ are also found in the *Hammīra Mahākāvya*.¹⁹ A great retinue of runners accompanying a hunting party is noticed in Bāṇa's *Kādambarī*.²⁰

The royal hunter rode on an elephant, as we notice in the case of Candragupta Maurya. Megasthenes says that if the hunt took place in

¹ *Kss.*, XXVII, 150-157.

² *Kss.*, XXI, 16.

³ *R.V.*, X, 86, 4.

⁴ Curtius, Bk., IX, Ch. I; *Classical Accounts of India*, p. 127.

⁵ *Raghu.*, IX, 46-47; *Sak.*, Act II.

⁶ *Hammīra Mahākāvya*, iv, 48.

⁷ *Mānasollāsa*, III-IV, 1298-1328.

⁸ *R.T.*, VI, 182.

⁹ *Kss.*, XXVII, 150-57.

¹⁰ *Kss.*, XXI, 16.

¹¹ *R.V.*, IX, 83, 4; *A.V.*, VIII, 8, 5.

¹² *Raghu.*, IX, 46-47.

¹³ *Kss.*, XXVII, 150.

¹⁴ *Kss.*, XXI, 11.

¹⁵ *Kss.*, XCIV, 8.

¹⁶ *Raghu.*, IX, 46-47; *Sak.*, Act II.

¹⁷ *Kss.*, XII, 5-6.

¹⁸ *Kss.*, XXVII, 150-51.

¹⁹ *Hammīra Mahākāvya*, IV, 48 f.

²⁰ *Kādambarī*, English Trans. by C. M. Ridding, p. 73.

the open country the king rode on an elephant.¹ In the *Kathāsaritsāgara*, king Vikramasimha² and king Lakṣadatta,³ while out on hunting, are described to have been seated on elephants.

Ladies accompanying the royal hunting party

In Megasthenes' description of Candragupta Maurya's hunting expedition, armed foreign female guards (Yavanīs) are found to be closely attending the royal hunter.⁴ In Kālidāsa the king out on hunting was accompanied by 'Yavanīs' who were wearing garlands of flowers and were armed with bows and arrows.⁵

In the *Kathāsaritsāgara*, we find king Udayana going to Lāvānaka on hunting along with his queen Vāsavadattā.⁶ Bilhana in his *Vikramāṅkadevacarita* has described the enjoyments of king Vikramāditya I in the cold season when the king accompanied by the ladies of his household started on his hunting excursion. He was preceded by courtesans on horse-back, while the inmates of his seraglio followed him on the rear.⁷

Dress of the royal hunter

Kālidāsa refers to hunting costume.⁸ The royal hunter wore a leaf-coloured armour for the sake of the adaptation to environment.⁹ *Kādambarī* refers to hunting costume.¹⁰ In the *Kathāsaritsāgara*, king Udayana in a dark green vest, resembling the colour of the tree-leaves, ranged the forest which was of the same colour as his dress.¹¹ In the *Hammīra Mahākāvya* the footmen in the hunting party are dressed in blue clothes.¹²

The games

Lions, elephants, boars, buffaloes, deer and birds were the games in the Rgvedic days.¹³ In Kālidāsa lions, tigers, wild boars, bisons, rhinoceroses, antelopes, yaks and birds are noticed as games in the description of royal hunts.¹⁴ In the *Harsacarita* we find Harṣa hunting lions, 'śarabhas', tigers and boars.¹⁵ The *Kādambarī* mentions wild elephants, wild boars, lions, 'śarabhas',* yaks and many kinds of deer.¹⁶ In the *Kathāsaritsāgara* the games consist of lions, tigers, elephants, wild boars, wild swine, buffaloes, deer and 'śarabhas'.¹⁷ Jackal hunting finds some references in the *Rājataranginī*.¹⁸

¹ Megasthenes, Fragm., XXVII.

² *Kss.*, XXVII, 152.

³ *Kss.*, LIII, 15-16.

⁴ Megasthenes, Fragm., XXVII.

⁵ *Raghu.*, IX, 46-47; *Suk.*, Act II.

⁶ *Kss.*, XV-XVI.

⁷ Bilhana, *Vikramāṅkadevacarita*, XII, 50-78.

⁸ *Suk.*, Act II.

⁹ *Raghu.*, IX, 51-64.

¹⁰ *Kādambarī*, English Trans. by C. M. Ridding, p. 73.

¹¹ *Kss.*, XXI, 11.

¹² Nayacandra Sūri, *Hammīra Mahākāvya*, IV, 48 f.

¹³ *R.V.*, X, 28, 10; 86, 4; IX, 83, 4; X, 51, 6; V, 15, 3; 74, 4.

¹⁴ *Raghu.*, IX, 51-64; *Suk.*, Act II.

¹⁵ *Harsacarita*, English Trans. by Cowell and Thomas, p. 132.

¹⁶ *Kādambarī*, English Trans. by C. M. Ridding, p. 73.

¹⁷ *Kss.*, XCIV, 8-14; XXI, 11-16; LXXV, 64-66; XXXV; LIII, 15-18; XLII, 2-7.

¹⁸ *R.T.*, VI, 180-183; VII, 171; VIII, 699.

* 'Śarabha' is a fabulous animal supposed to have eight legs and to dwell in the snowy mountains. *Kādambarī*, English Trans. by C. M. Ridding, p. 73, f.n.

HUNTING RECOMMENDED FOR KINGS

In the *Kathāsaritsāgara*, Amaragupta, a minister of king Vikramasimha, tells the king that hunting is approved for the kings to give them exercise and excitement: the kings are further advised to slay the malignant wild animals, as otherwise the earth will be depopulated by them.¹ Recommendation of hunting for kings is found in *Kauṭilya*. The benefit of hunting, according to Kauṭilya, are exercise, getting rid of phlegm, bile, fat and a tendency to perspiration, practice in hitting the targets of moving and stationary bodies, knowledge of the minds of animals in anger, fear and ease, and occasional marching.² Similar views are noticed in Kālidāsa's *Śakuntalā*³ and in *Kāmandakīya-nīti-sāra*.⁴ Daṇḍin equally enthusiastic about hunting says there is nothing so nice as 'mṛgayā': it gives the legs magnificent exercise; and long winded speed might prove very handy after a defeat: it dries up the phlegmatic humour thus promoting digestion, the sole foundation of health: by reducing the fat it makes the body vigorous, sinewy, agile: it gives power to endure cold, heat, wind, rain, hunger, thirst: it interprets the mental activities of living beings from their physical expression: it supplements scanty crops with the flesh of deer, buffaloes, wild oxen and other games: it makes the land routes safe by killing such creatures as wolves and tigers: it wins the confidence of jungle tribes: it fosters energy, thus impressing hostile armies.⁵

In the early medieval work *Mānasollāsa*, hunting as a sport for kings, is elaborately dealt with. Thus, the text recommends the reservation of forest for royal hunt. Thirty-one methods of hunting are enumerated in this context.⁶

Hunting as a vice

Along with the praise of hunting we also notice its condemnation in the *Kathāsaritsāgara*. Thus Amaragupta, the minister of king Vikramasimha, first recommending hunting for kings, adds that too much addiction to hunting is bad as formerly Pāṇḍu and other kings met their doom on account of it.⁷ Hermit Nārada condemns hunting and repeats the story of Pāṇḍu whose love of hunting brought about his destruction.⁸ In Kauṭilya too, hunting is one of the four vices and it is a worse vice than gambling. For, in it, the danger of robbers, enemies, wild animals, forest fires, and stumbling and loss of way as well as hunger and thirst constitute the danger to life.⁹ Manu includes hunting in his list of ten vices.¹⁰ Of these, hunting along with drinking, gambling and women forms a group of the four most harmful vices.¹¹ The condemnation of hunting for kings is to be noticed in the *Kāmandakīya-nīti-sāra*, which also says that calamities befell Pāṇḍu who was addicted to it.¹²

¹ *Kss.*, XXVII, 145-148.

² *Arthasāstra*, Bk. VIII, Ch. III, 46.

³ *Śak.*, II, 25.

⁴ *Kāmandakīya-nīti-sāra*, XIV, 25-26.

⁵ Daṇḍin, *Daśakumāracarita*, text, p. 135.

⁶ *Mānasollāsa*, Vol. II, 4th Vimsati, Ch. 15.

⁷ *Kss.*, XXVII, 140-148.

⁸ *Kss.*, XXI, 17-30.

⁹ *Arthasāstra*, Bk. VIII, Ch. III, 40.

¹⁰ *Manu.*, VII, 47.

¹¹ *Manu.*, VII, 50.

¹² *Kāmandakīya-nīti-sāra*, I, 54.

SOME POST-MUSLIM TEMPLES AND SCULPTURES OF RĀJASTHĀN

By ADRIS BANERJI

(Received March 13, 1967)

A most tragic age in India opened in A.D. 1193, when Turki converts to Islam crashed the gates and entered the fertile Kuru-Pāñcāla country. Beyond it, lay the smiling fields of Antarvedī (the doab between the Gaṅgā and Yamunā); and, even beyond these, all the populous cities, ports and emporiums of eastern India. They successfully exploited the gap to gain more. Since the Hūna invasion the Indian scene had changed. A policy of total indifference to the cataclysmic changes in the mainland of Asia isolated the rulers of India, who lived in an utopia of their own.¹ In this paper I am endeavouring to discuss some fanes of Rājasthān and their applied sculptures. Notwithstanding several successful Muslim raids, the number of temples amounts to more than 100 in Mewār alone.

After A.D. 1195, the socio-political scene underwent revolutionary changes. Over the rubble and shambles of their culture, small bands of Rajputs settled themselves in the inhospitable desert tracts and less accessible valleys of Rājasthān and western Himalayas, creating a new type of feudal society.² This society attempted not merely conservation, but resurrection of traditional arts and crafts. At first the resources were limited, the classic guilds and architects as well as stone-cutters (*śilapaṭṭa vamsa*, i.e. *silāwat* caste) were all lost. Their first attempts, therefore, were clumsy and crude, compared with the classic examples at Tārāgarh-Ajmere (and not Tārāgarh-Bundi), Ranthāmbhor, Bādoli, Menāl and Bijholi. But later on they succeeded with Somapuras or Gujarāt craftsmen.

The chief characteristics of this architecture was beauty in mass—produced as an organic whole and not merely design in the abstract. The design had a functional character. A quality which could not have materialized without a well-established canon and a grammar for idioms of expression. The Somapuras with their canon have survived and were responsible for erection of the new temple of Somnāth. When in course of time the classic stage was reached, the creative faculty was lost, followed by inevitable conventionalization and copying. But some of the works of canon which have survived convey to us, across the gulf of ages, idioms and syntax of design. One of the factors that led to a moraine of critical appreciation is prejudice, like Lawrence, as evident from his evaluation of Indian art in *Jesting Pilate*. In fact the regional or national arts were merely varieties of universal sense of beauty and form according to ethnical capacities.³ That is why Sir Jacob Epstien was so much impressed by Negro art.

¹ Cf. the writer's 'Post-Muslim Temples of Bihar'. *JAS*, Vol. IV, No. 2 (1962), pp. 63 ff.

² P. Saran: *Studies in Mediaeval History of India*. New Delhi, 1932.

³ Cf. the writer's 'The Character of Indian Art'. *Calcutta Review*, April 1937, pp. 85 ff.

From its very origin and development, architects of ancient India, and later on of mediaeval Rājasthān, depended on mass for stability without any mortar. They joined together a number of isolated forms to obtain the results, that is, to counteract gravitation with balance and poise. Elegance, extraordinary in quality, was obtained by exploiting forms, geometrical and vegetal motifs, sculptures and pilasters, etc., in a sculptural way. The richness of the decorative art conveys a sense of well-being, grandeur and delight. They possess character and significance, based upon assimilation of cultural influences both from the north and south. They are distinguished by breadth of vision, imagination and a balance between verticals and the horizontals of the design, solids and voids. The niches on the outer wall played a vital role in breaking up the monotony of the same plain, at the same time imparting a unity to the whole design. Yet, this very design had mystic, sacerdotal and spiritual values. They betray the existence of a cognate and homogeneous style and are examples of a distinctive and concerned architectural movement, differing only in expression.

The first of these are three Jaina temples and one shrine dedicated to the Sun at Raṇpura, Rāṇakpura or Rāmpūrvā (25° 7' N and 73° 28' E). It is celebrated as one of the *pañcatīrthas* of the Jainas. The place is situated 88 miles south-east of Jodhpur city, and 14 miles east by south-east of the Falnā railway station. It had been noticed by Fergusson and an account of the monuments of this place was first published by D. R. Bhandarkar, as Assistant Superintendent of Archaeological Survey, when it possessed scholars and not matriculate overseers on regional or technical grounds. He further elaborated his studies on the Sarvotabhadra temple called Yugādīśvara in the consolidated *Report* edited by the late Sir J. H. Marshall.¹ The Sarvotabhadra temple is well known, but the fact that there are two other temples dedicated to Supārśvanātha, the 7th *tīrthaṅkara*, and Naminātha, the 22nd *tīrthaṅkara*, is not so well known. These two temples are at the front of the great temple. Notwithstanding the fact that Rājasthān was an area of great isolation,² most of the remains have undergone structural repairs, due to vandalism; and many earlier remains have totally disappeared. The temples under discussion erected on a lonely glen, which gives access to the western slope of the Aravalli range, were no exceptions; and local tradition refers to a visit by Aurangzebe. Leaving aside these folk-traditions, the fact remains that the objective evidence supplied by the structures themselves establishes possibility of destruction. But as far as dates are concerned except in one example we have no data to proceed objectively. For the rest we have to be subjective, depending on style. The Yugādīśvara temple, according to an inscription, was erected in V.S. 1489 (A.D. 1432-33), during the reign of Mahārāṇā Kumbhakarna. It was a *miśra* type of temple, as far as materials are concerned. The *śikhara*s were built of brick. Stylistically, they are of Lāṭa variety, that is, clustered *śikhara* types of Gujarāt, but extremely inelegant.

The two minor Jaina temples were of *nirandhāra* type, that is, without any circumbulatory passage within the temple. Several periods of structural sequence exist in the temple dedicated to Supārśvanātha, the tower

¹ *A History of Indian and Eastern Architecture, Progress Report of the Archaeological Survey, Western Circle, 1907-08, pp. 58-59; Annual Report of the Archaeological Survey of India, 1907-08, pp. 205-06. Cf. also the writer's 'Jain Temple at Rāṇakpur'. Journal of Indian Museums, Vols. XVII-XX (1961-64), pp. 41-45.*

² B. Subba Rao : *The Personality of India*, 1958, p. 12.

excluding minor repairs and the *garbhagrha* up to *śukanāsā* belongs to c. fifteenth or sixteenth century A.D.; while the peristyled veranda with hypostyle roof of the *antarāla* was erected in the nineteenth century (Fig. 1). This dating of the older portion is supported by the quality of sculptures as well as the *saṁsthānaka*. The sanctum is rectangular internally, but star-shaped (*vr̥tta*) externally, with *rathas* (projecting angles), *chaturbhadras* (four facets) and *salilāntaras* (recessed corners). The two temples at Nemāwār Chaurera Dera, Nos. 1 and 2, and Nilkanṭheśvara at Un (district Dewas), the temple of Udayeśvara at Udaipur (district Vidiśā) are few of this class. Further additions can be made from Menāl and Bijholi (in districts of Bhilwārā and Chitorgarh) which were also repaired in post-Muslim times: possibly by Mokala or Kumbha.

The applied sculptures, too, have great affinity not merely in style with those of the great Sarvotabhadra cathedral but also with those of Kumbha's Tower of Victory at Chitorgarh and Śṛṅgāra Caurī at the same place, as far as presentation, spirit, sensibility and vitality are concerned. From a bygone past are inherited the decorative motifs or they were copied from existing ruins. A great deal of this revival was due to the researches of Maṇḍana Miśra. Vegetal and geometrical ornaments, harmless to the tenets of Islam, had been utilized by Indian craftsmen in occupied India since the twelfth century of the Christian era. But with a difference. Abstraction, formalization and idealized human forms are noteworthy. Many of them are copies of existing sculptures, in fact the idea of an archtype is forced upon us. The same arrangement within *kuṭas* (shrines flanked by pilasters), or *piṭhas* (pedestals) of *apsarās* or *surasundarīs* in various poses and postures (Fig. 3); playing flutes and *mṛdaṅgas*, dancing, holding mirrors or applying vermilion on the parting of the hair, juggling with balls, *mithuna* couples, *siddhas*, *yakshas*, *kīrttimukhas* are found in diluvian quantity as used to be done before the Turki invasion, from Comorin to Rājasthān.

Idioms of architectural expressions are also conventional. We have the same *jālaka* of *caityas*, *jādyā-kumbhas*, *karnikā*, *grāsapaṭṭi*, *antarapatra*, *kapota* and *kumuda jādyās*, etc., as plinth-mouldings. Above the *varaṇḍikā*, we have the identical *rathikā*, *tilaka*, *karnaśṛṅgas*, *bhūmi-āmalakas*, etc. The doorways have *mandāraka*, various kinds of *śākhās* such as *gandharva*, *patra*, *vyālaka*, etc., *lalāṭavimba* and *uttarāṅga*. The excellent quality of the ornaments and the admitted sculptural nature of architecture are the best epitaphs on this revival movement. Along with these, an intruding element, alien to the national traditions, also appear; suggesting assimilation and absorption of Turco-Afghan architectural expressions. These are the domes—most delicately carved filigree works, interlaced at that, reminding us of similar examples in Gujarāt, inherited from a past they had destroyed by the sword and fire, e.g. at Modherā. Many of the motifs and designs on pillars, *tarāṅgapotikās* (roll brackets), *pratolis* are met with in Muslim buildings.

The temple of Naminātha is similar to that of Supārśvanātha.

The third temple, however, was dedicated to the Sun and stands in a different footing. It has a *jagati* and *adhiṣṭhāna*. This was also a *nirandhāra prāsāda*, too. Originally it contained a *saṁvr̥tta maṇḍapa*, an *antarāla* and a *garbhagrha*, which was rectangular internally and *vr̥tta-saṁsthānaka* externally. The roofs of the passage and the porch have fallen but the *śikhara* stands. The ornate doorway (Fig. 4), without the iconostasis of the twin river goddesses, Gaṅgā and Yamunā, with a high threshold, *dvārapālas* and the *urdhhapatṭikā* having the effigy of Gaṇeśa on *lalāṭavimba*, along with the figures of the *parivāradevatās*, *dikpālas* and *navagrahas* (Fig. 5), etc., on the outer walls of the *garbhagrha* or *vimāna*

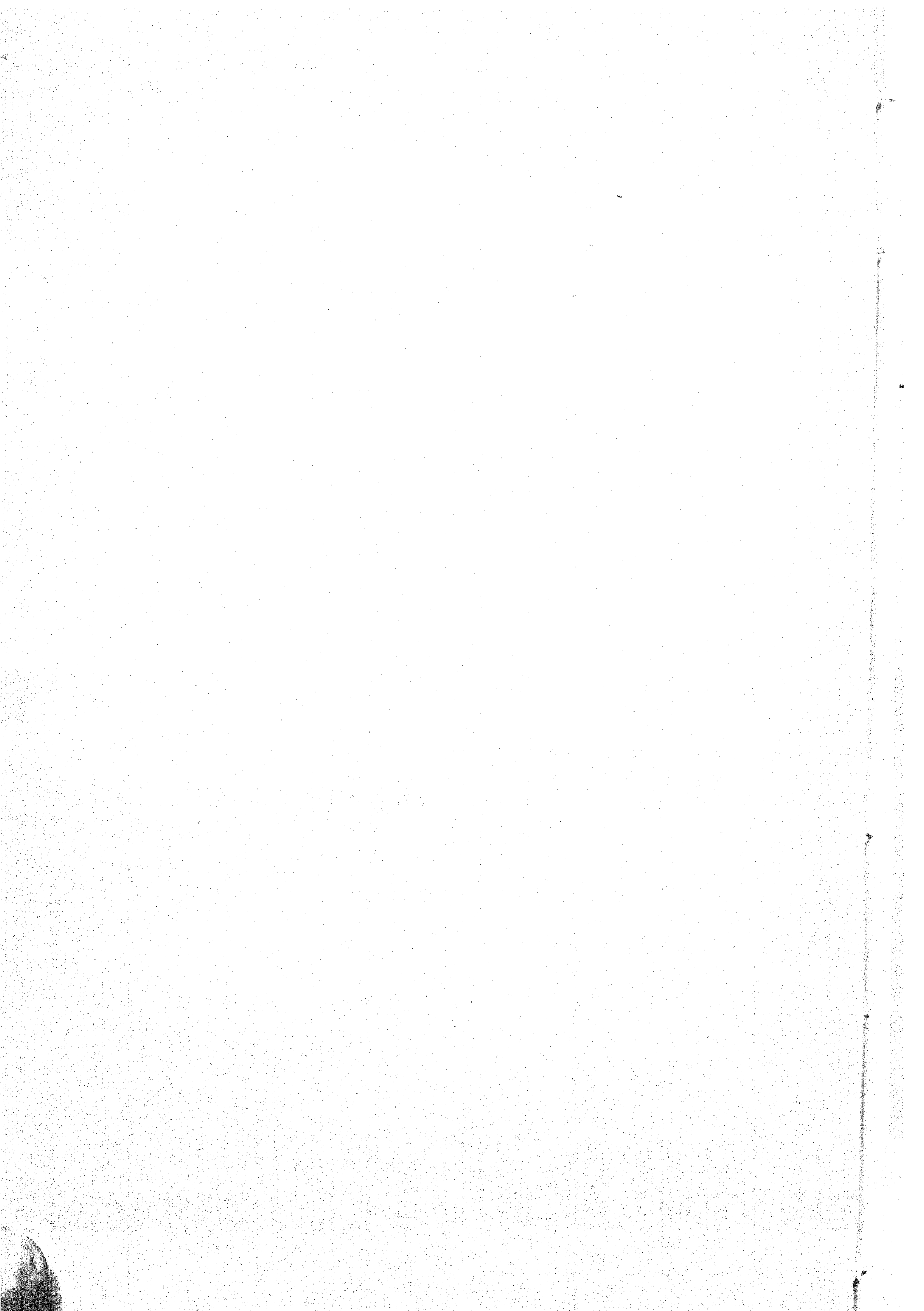
belong to c. eleventh or twelfth century A.D. But the *varaṇḍikā* with *grivā*, *mastakā* are of c. A.D. 1400–1500. The *śukanāsā* has a vacant *pīṭha* or pedestal. No doubt all the elements of the design of the *varaṇḍikā* are there, e.g. the *mūla-mañjarī*, *aṇḍaka*, *ura-mañjarīs*, flanked by *karna-mañjarīs*, *karna* and *naṣṭa-śrīṅgas*. But they lack the grace, the mass, the elegance, the compactness and what is more, concord in design of its earlier and classical prototypes. The rhythmic cascades of planes, from which the *mūla-śikhara* raises its massive body, silhouetted against the sky, are conspicuous by their absence. Yet, it has similarity with those of the Yugādiśvara temple. All these show that it underwent repairs in the fifteenth or sixteenth century A.D., having fallen into ruins or violated. Then again it suffered desecration or fell into ruins in troublous times that followed, and has never been repaired.

A remarkable departure in the temple of Supārśvanātha is the occurrence of erotic sculptures (Fig. 6). A very well-known practice with the ancient and mediaeval *sthāpatīs*. These are a source of great embarrassment to the Jaina priests of Rāṇakpura, who explain that the temple was erected by the Somapuras, who built the Sarvotabhadra temple, during their leisure hours. The term Somapura is very helpful, since it establishes the role played by the Gujarāt craftsmen in reviving art and architecture in South-eastern Rājasthān in the fifteenth century of the Christian era. Even now they are employed in the annual repairs. In passing we must point out that the erotic scenes, far from being lecherous, have an intellectual quality, which elevate them from commonplace voluptuousness. Their spirituality eclipses banality.

The temple of Naminātha has no erotic sculptures but possesses the identical *apsarās* or *surasundarīs* on *pīṭhas* (Fig. 7), rampant *vyālakas* on the *salilāntaras* and the images of *dikpālas*, etc. (Fig. 8). The applied sculptures have value of their own. They are distinguished by polish, rather than untutored vigour. They have a distinct individuality, as portraits of souls within limits of personality. The art was conceptual rather than optical. What is more, they betray a knowledge of what a great ally the Sun was. The earliest instances of this utilization of the solar rays are Bhārhut and Sānchi. The next great instance is the Tower of Dhāmek at Sārnāth, where every facet was carved with a view to obtaining greatest effect of the solar rays during various seasons and different hours of a day. In the same way, the forest of sculptured reliefs of Rāṇakpur is thrown into highest relief in the earlier part of the day. The noonday Sun, blazing in all its glory creates transcendental forms and chiaroscuro. The afternoon glow accentuates the edges with a vivid sidelight—a living series of figures in gilded stone, relieved by crisp blue shadows, below the seemingly lofty *śikharas*, silhouetted against the blue of the space.

The form and proportions, derived from nature, have been successfully transformed in stone. The anthropomorphic renderings of the celestial forms, the lovely figures of the resplendant females, in the most common day-to-day poses—reaching upwards at the parting of the hair (Fig. 9) on the head; holding a mirror; dancing with a dagger or juggling with balls (Fig. 10)—indicate the humanism of the art. Their shapely arms, outlines of jewelled girdled thighs, rounded legs and small but full busts are forerunners of mediaeval Rājasthāni paintings. The decorative and the realistic factors are most happily co-ordinated with symbolic motifs and flowers. The dancers burst upon our vision stamping joyously earthwards, with the daring conceit of youth. One foot is firmly advanced or placed with prehensile strength, while the other foot is carefully held for balance. In none of these poses, any arrogance, immodesty or false sense or timidity are

observed, but they are remarkable for serene frankness, honest charm and simplicity of sylvan nymphs. At the same time there is majesty, nobility and expressive contours and angles. They represent, in material terms, the image of eternal women and eternal beauty, which lies dormant in human hearts. Over all these the Sun lays a carpet of gold. The eternal spirit is one, though the learned may call it by various attributes.



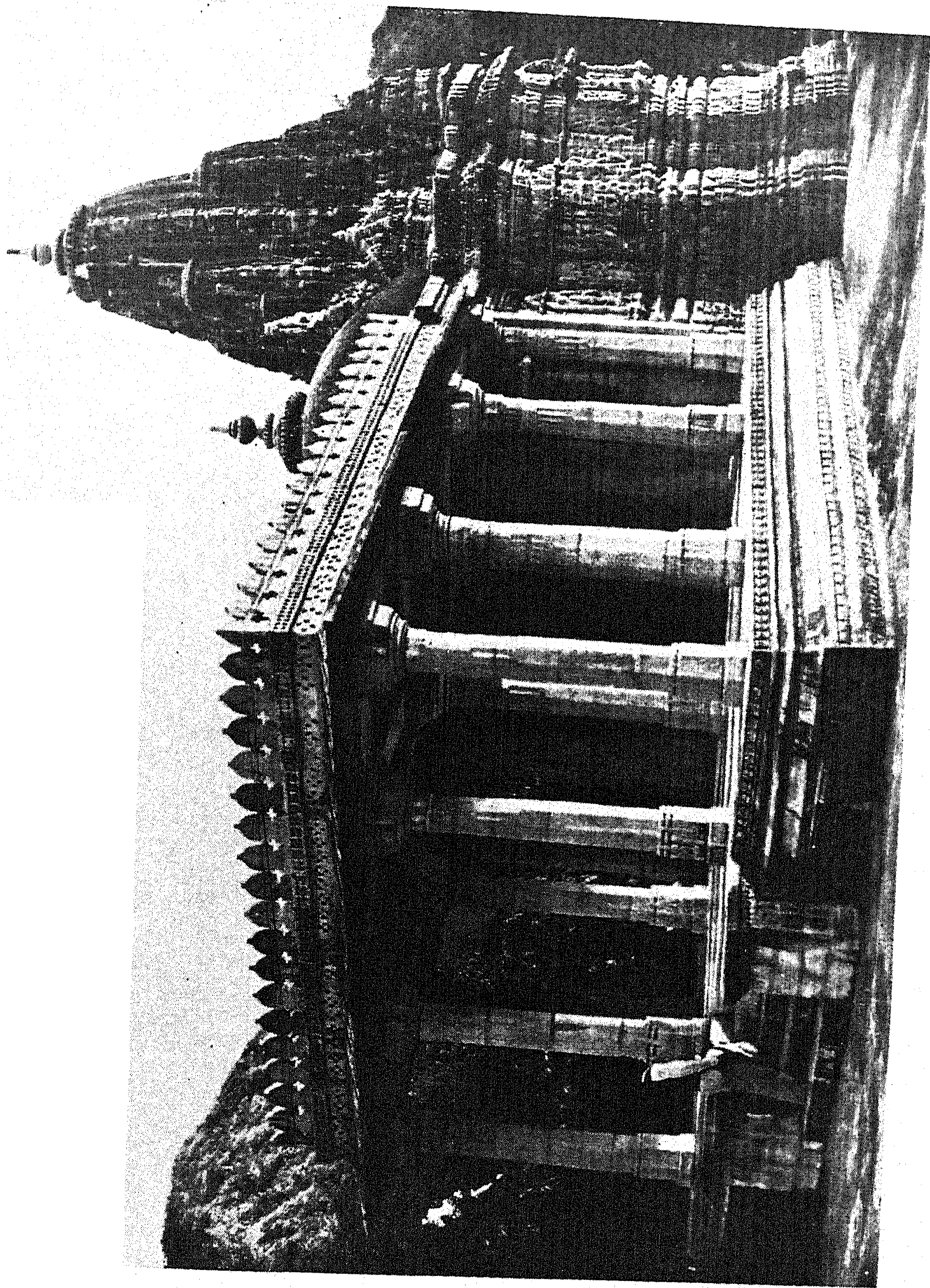


FIG. 1. The temple of Supārśvanātha at Rājapūr, Bārmer, Rājasthān.



Fig. 2. A sculptured *bhadra* of Supārśvanātha temple, Ranakpur.

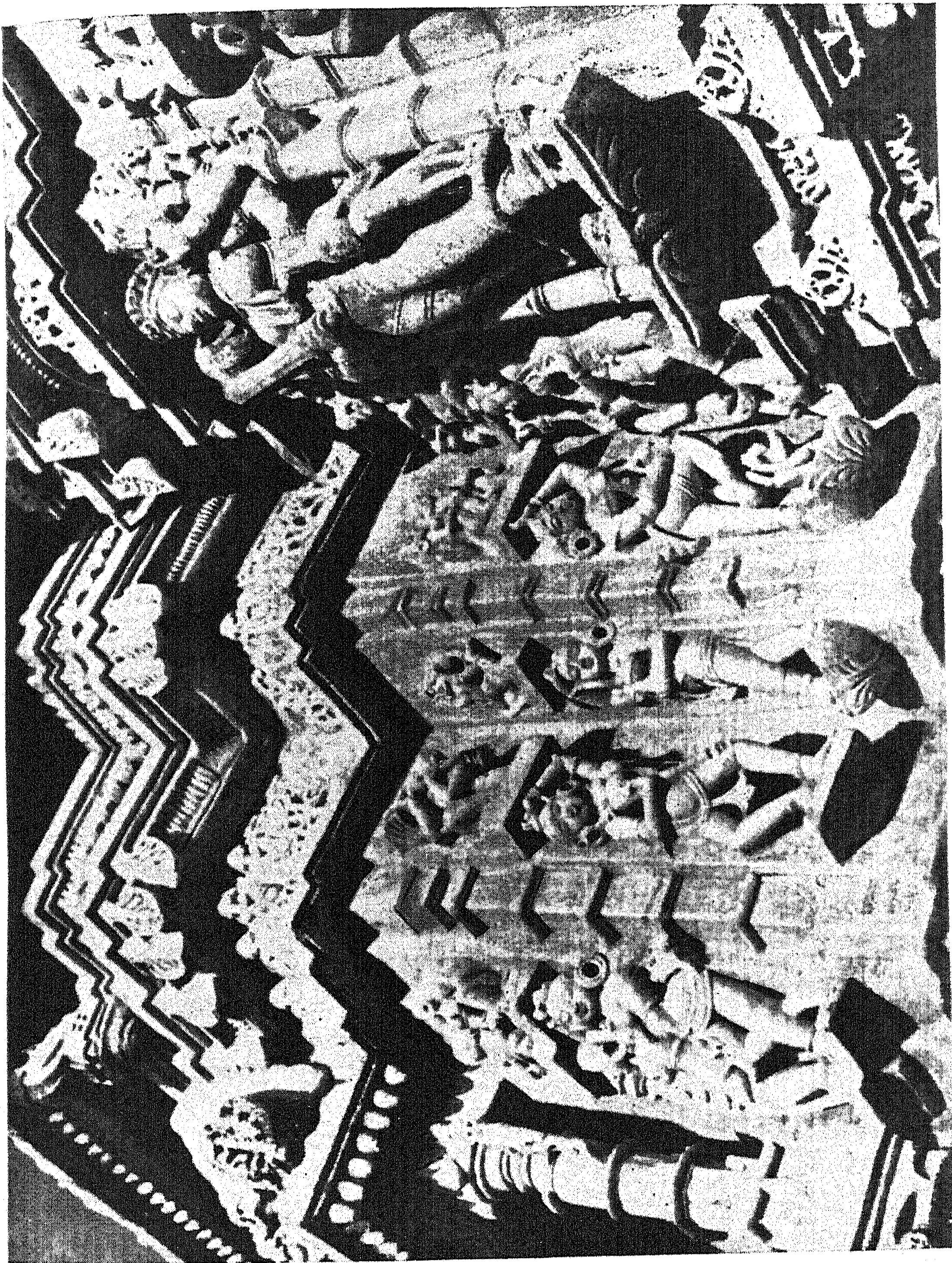


FIG. 3. *Apsarās* in various poses on *pīṭhas* of Supāśvanātha temple, Rāṇakpur.

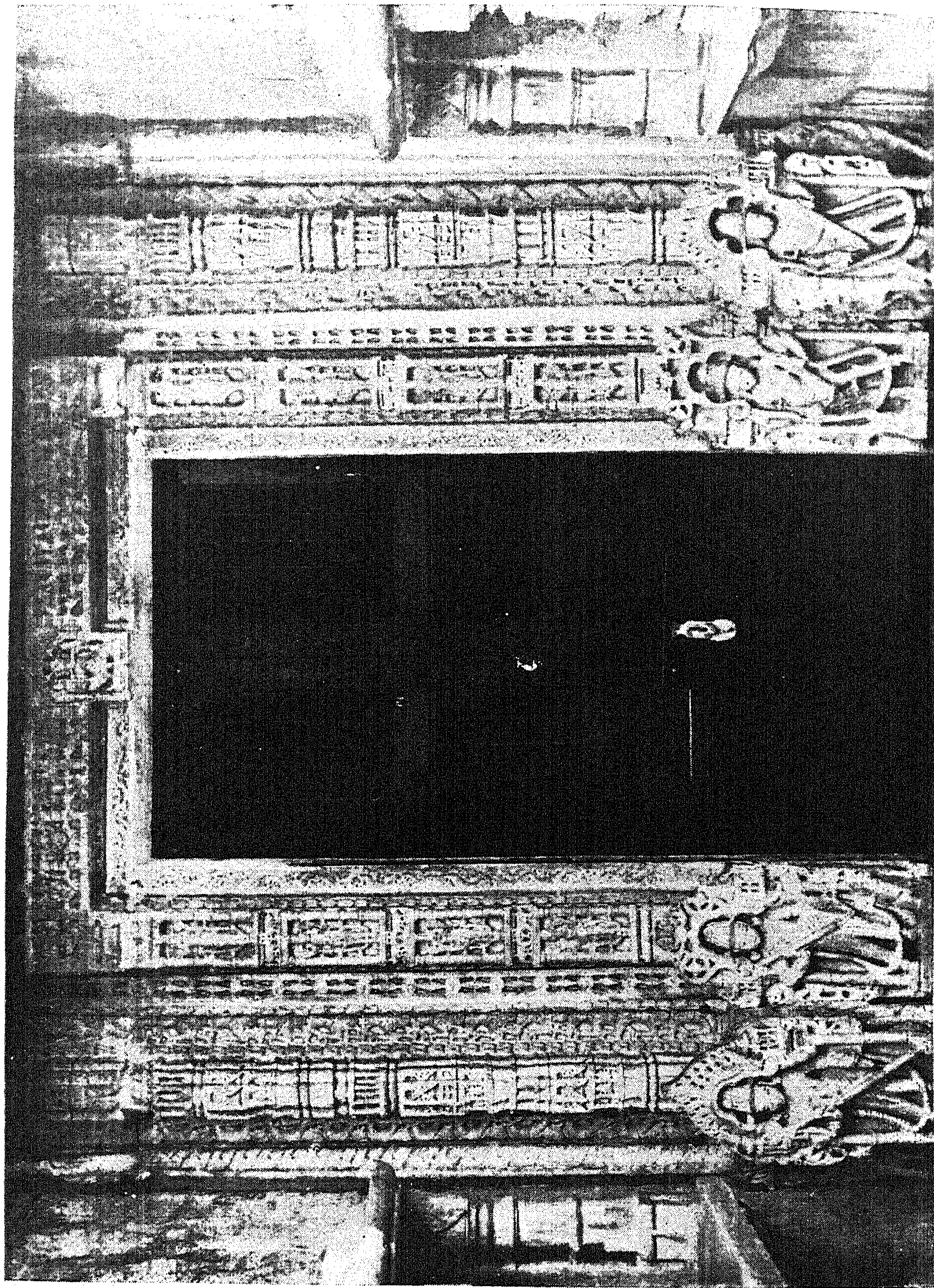


FIG. 4. Doorframe of the sanctum of the Sūrya temple at Rāmkapur.

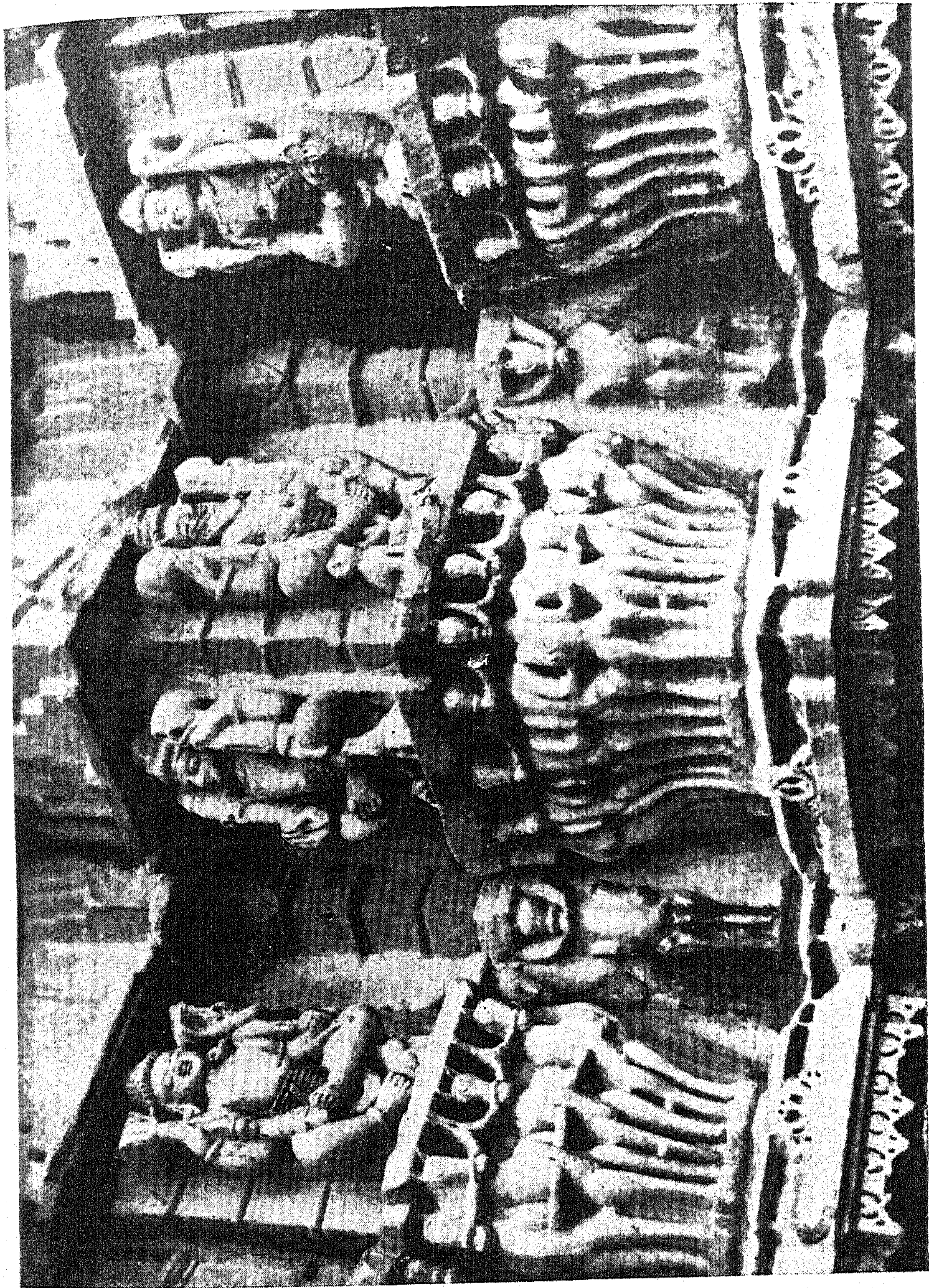


FIG. 5. Images of *dikpālas* on *rathas* of the Sun temple, Rāṇakpur.

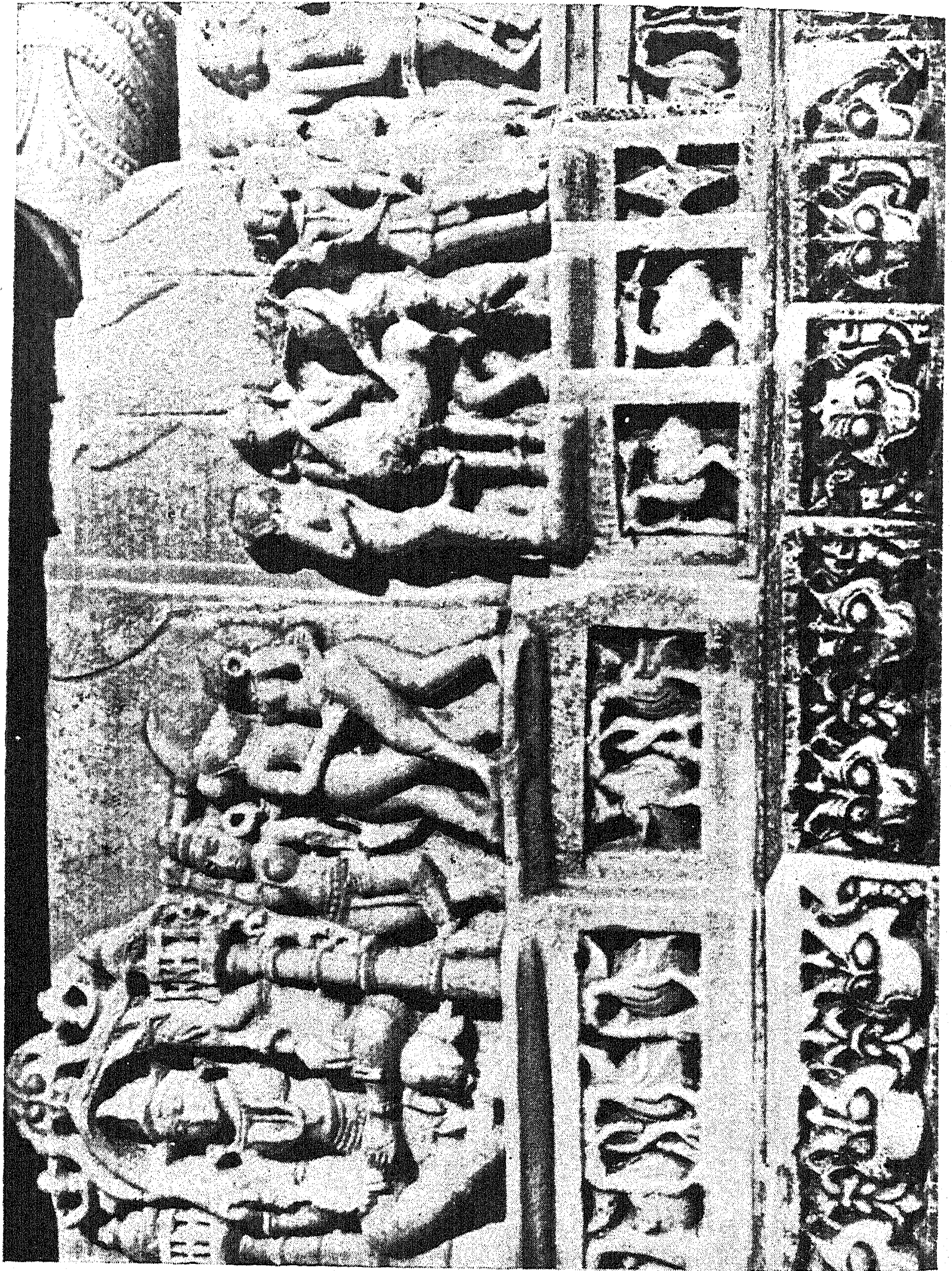


FIG. 6. *Mithuna* couples, *baiesalilas*, above *Krttimukhas* of Supriyasantika temple.

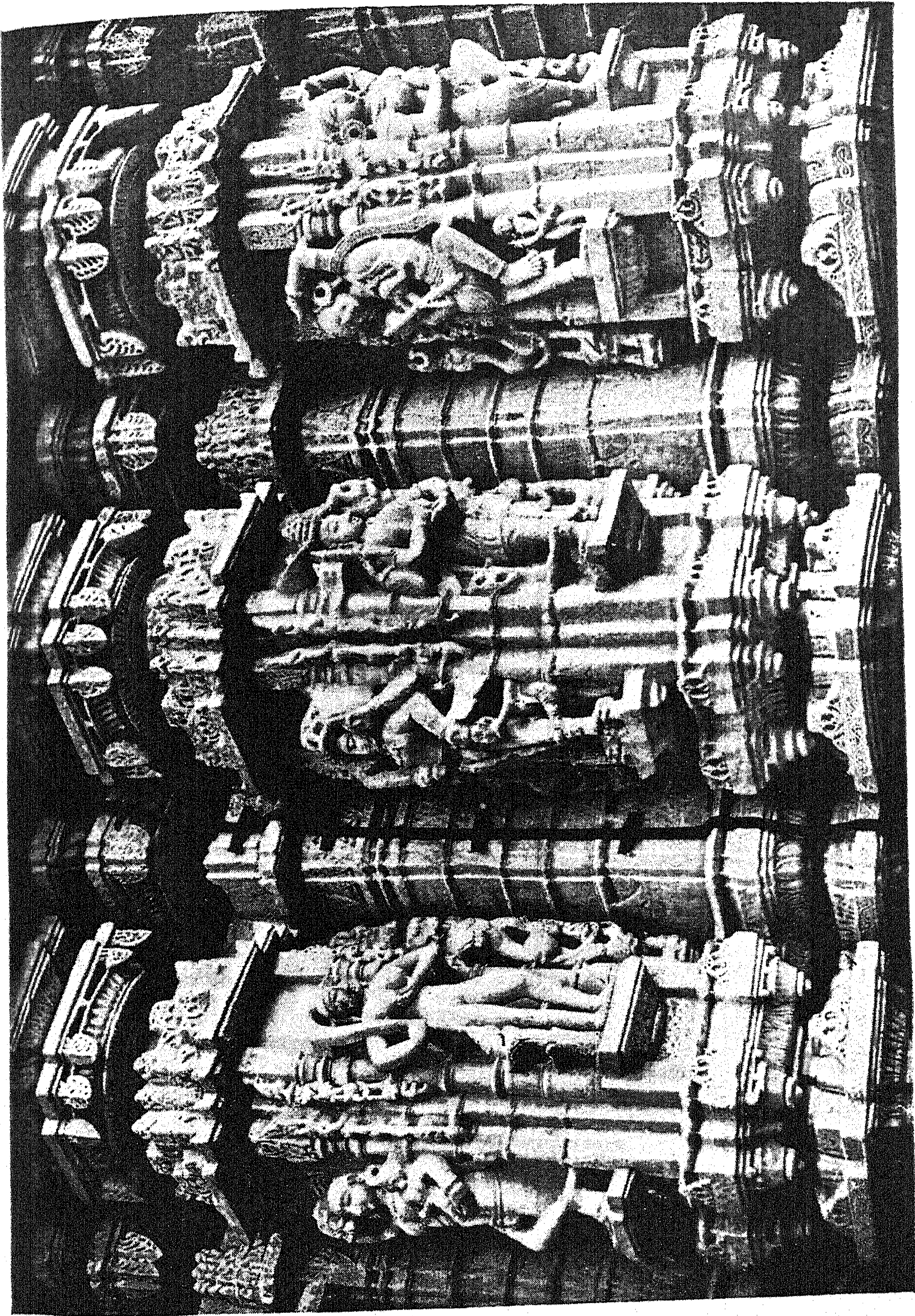


FIG. 7. *Sarasundarīs* on *pīṭhas* in various poses, Naminātha temple, Rāṇakpur.

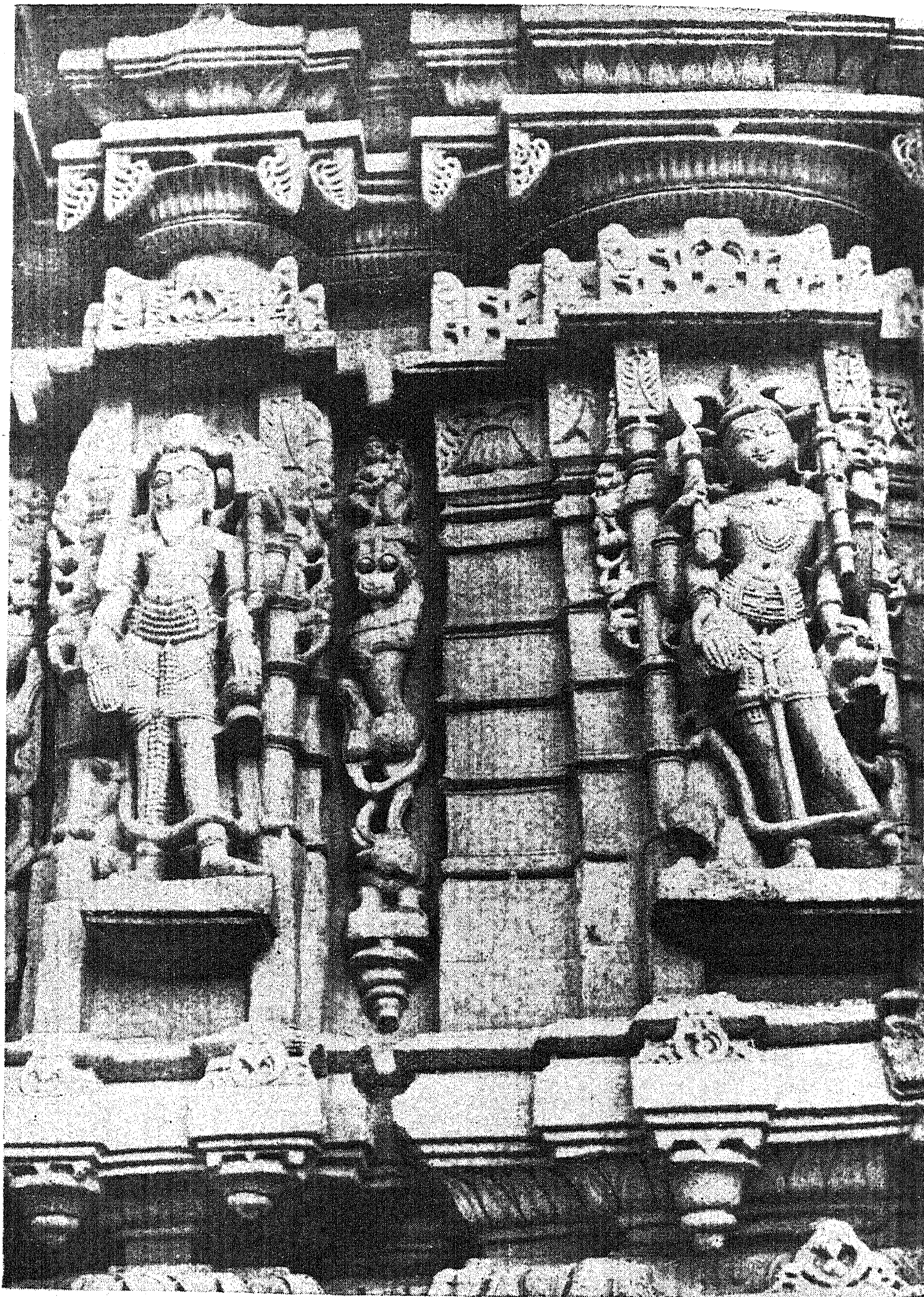


FIG. 8. Images of Indra, Agni, etc., in *kuṭas*, Naminātha temple.

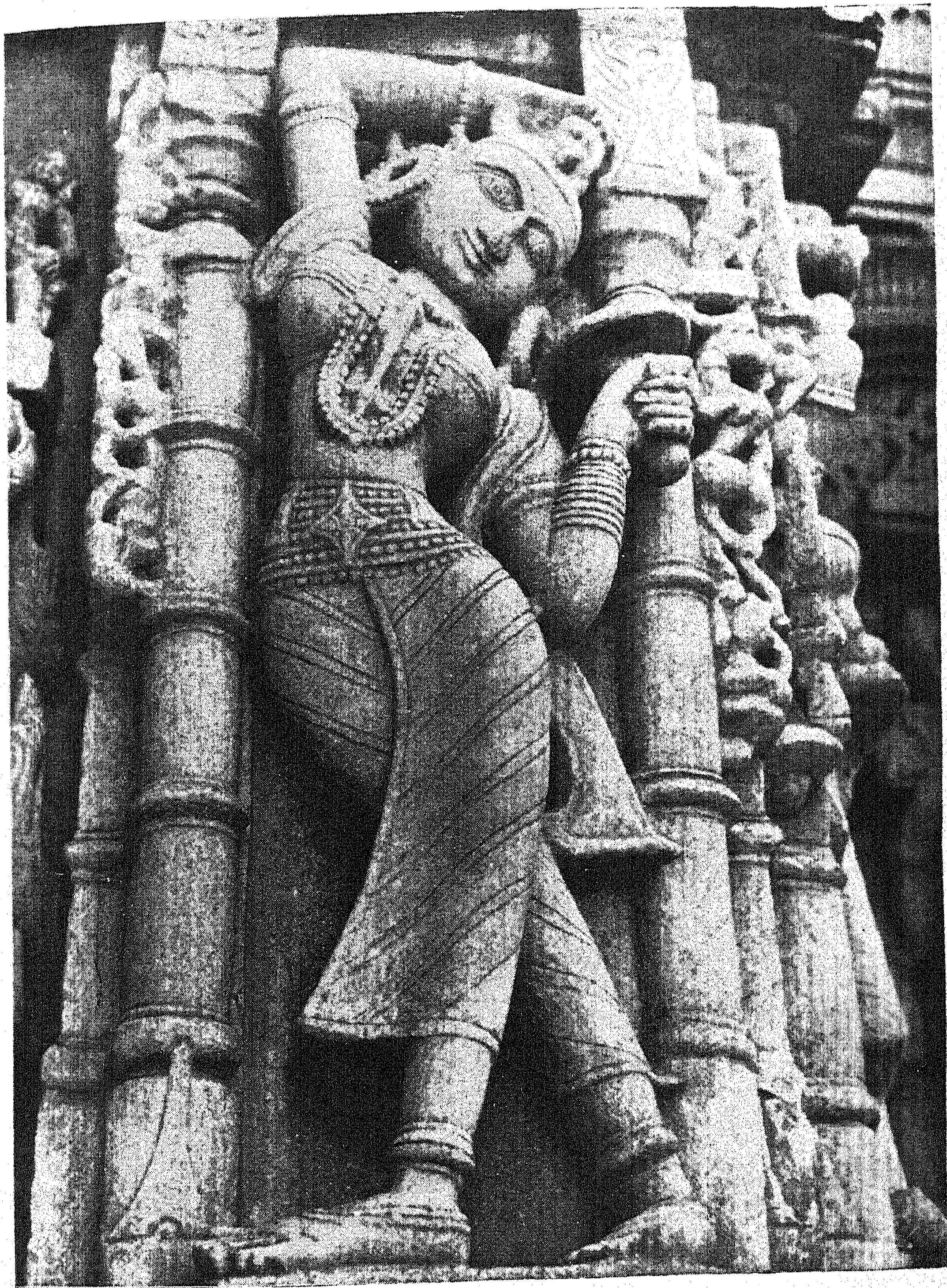


FIG. 9. A woman looking at a mirror, etc., Supārśvanātha temple, Rāṇakpur.

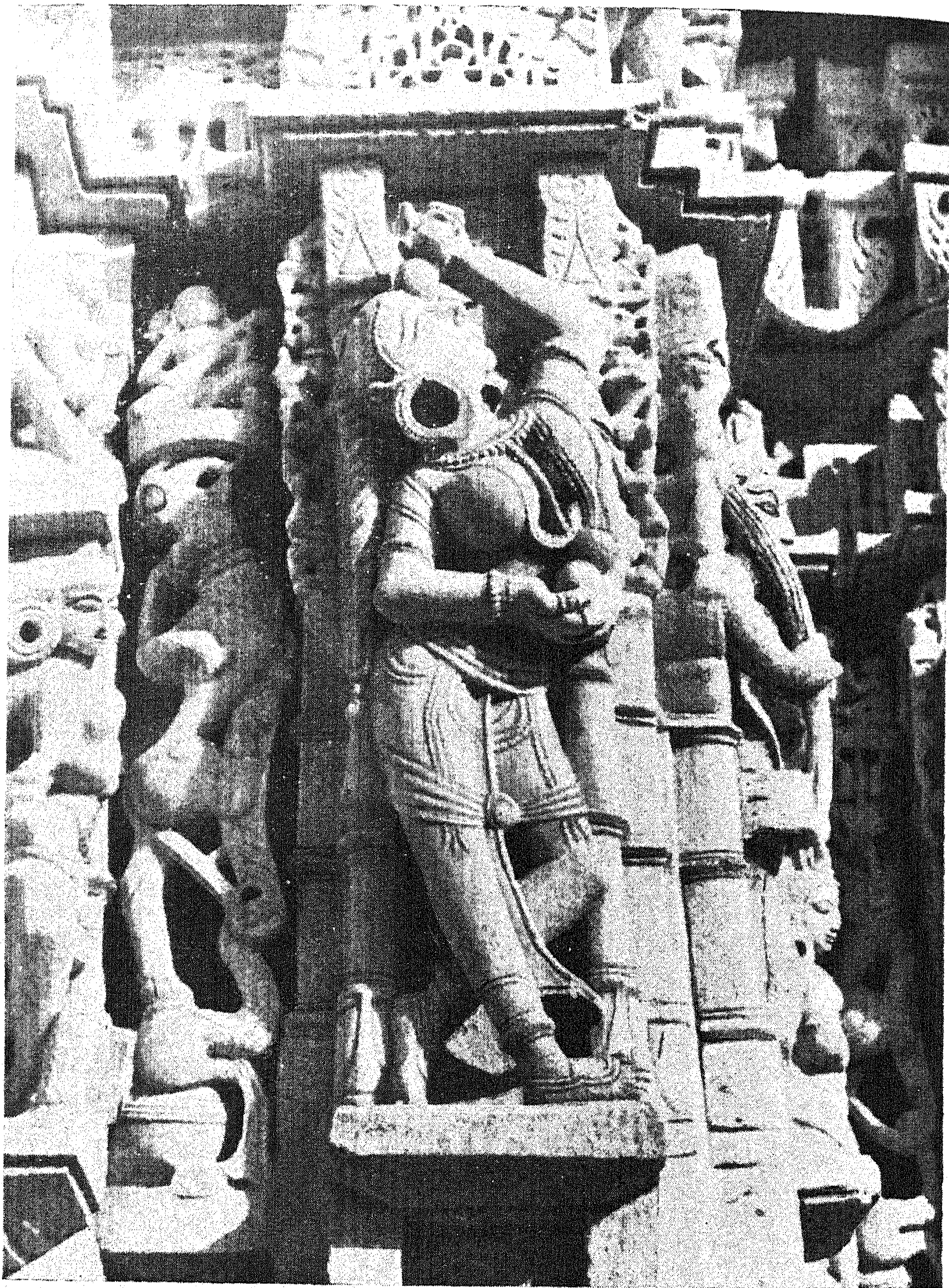


FIG. 10. Juggling with balls, Supārśvanātha temple.

REFLECTIONS OF ANCIENT INDIAN SOCIETY IN THE
KATHĀSARITSĀGARA

By APARNA CHATTOPADHYAY

(Received January 5, 1967)

The Kathāsaritsāgara though often referred to by scholars as a work of the early medieval period inasmuch as it was written by Somadeva in the eleventh century, the period which it depicts, has been a subject of controversy. Though one of the richest fields for social research, being next to the two epics in this matter, Somadeva's Kathāsaritsāgara is a stupendous collection of tales dating from very early days up-till the Vetala Pancaviṃśati and the Pañcatantra were incorporated in it and is based on Guṇādhyā's Brhatkathā.

By a critical study of the material found in the work, we can say that the work, in spite of it being a very large collection of tales dating from the earliest years of Aryan society, generally depicts early medieval Indian society, though there are some details which belong to the earlier period of Indian society while some others are true to ancient Indian society in general.

In the first place we trace the details, in the Kathāsaritsāgara, that prove its colouring of the early medieval period. We find Rājputs mentioned in several places. Though the Sanskrit term for Rajput is Rajaputra which may mean a prince, the context of the references shows that they were Rajputs. Thus we find a Rājaputra named Simhagupta in the service of king Sātavāhana¹ and the capital city of Ujjayinī guarded by Rājaputra guards.² In these references the term Rājaputra suggests men of the Rājput community and not princes. The appointment of five hundred Rājaputra bodyguards for prince Samarabhaṭa³ or two hundred Rājaputra guards accompanying Vikramāditya⁴ also suggest the same. Again we find that a Rājaputra named Kṛṣṇaśakti came from the Deccan and took service under king Vikramāditya. He had along with him five hundred Rājaputras.⁵

In the field of education we find monasteries for Brāhmaṇas in the Kathāsaritsāgara. It refers to the monasteries of Brāhmaṇas in Ujjayinī,⁶ in the city of Karkoṭaka⁷ and in the island of Utsthala.⁸ In Kṣemendra's Deśopadeśa we find interesting and intimate details about a Hindu 'maṭha' in Kaśmīra with students from distant Bengal.⁹ In the Rājatarāṅginī we find many references to such 'maṭhas' which were centres of learning. Such 'maṭhas' were built in large numbers in Kaśmīra by kings, queens, princesses and ministers and also by virtuous citizens.¹⁰ Kalacuri and

¹ KSS., VI, 155.

² प्रवीरकुलजानेकराजपुत्राभिरक्षितैः KSS., CII, 11.

³ KSS., LXXIV, 59.

⁴ KSS., XXXVIII, 17-18.

⁵ शिश्रिये राजपुत्राणामन्वितः पञ्चभिः शतैः । KSS., CXXIV, 52-53.

⁶ KSS., XVIII, 105.

⁷ KSS., XVIII, 318.

⁸ KSS., XXV, 63.

⁹ Deśopadeśa, Lesson IV.

¹⁰ R.T., VII, 214; VIII, 243, 2401, 3320-21; VII, 151, 182-83, 956; VIII, 246, 371, 1052, 2309, 2333-34; VIII, 120, 5111, 2408, 2402, 2431, 3354, 3355-56, 3359; VIII, 3330.

Cālukya kings also established 'maṭhas' for promotion of learning.¹ Here we may note that, as rightly pointed out by Professor Basham, Hindu monasticism developed in the middle ages and the 'maṭhas' of the Hindu orders also became centres of learning.²

Secondly, in the Kathāsaritsāgara, we find Valabhi as a centre of learning.³ Valabhi, a Buddhist centre of learning like Nālandā, acquired this reputation by the seventh century A.D. In earlier days, it was a great centre of trade but not of learning.⁴ The absence of Buddhist monasteries as centres of learning in the Kathāsaritsāgara is also a feature of early medieval India. Further, Somadeva does not mention Takṣaśilā of Vārāṇasī as centres of learning. In early years Vārāṇasī was a great centre of learning while in a later period it became famous as a religious centre.⁵ The later picture of Vārāṇasī, which is true to early medieval period, is to be found in the Kathāsaritsāgara.

The wide prevalence of the custom of 'Satī', as found in the Kathāsaritsāgara, attests its early medieval character.⁶ Before the sixth century A.D., it was rare and by the time of the Muslim conquest it was well established in society as one of the two courses left to Indian widows, the other being the miserable lonely life of a widow with all the hardships.⁷

The institution of 'Devadāsīs' or temple girls referred to by Somadeva in a matter-of-fact⁸ tone again reflects medieval Indian society in the Kathāsaritsāgara. This institution is totally absent in Indian literature, Dharmaśāstras and inscriptions before the sixth century A.D.⁹ Its sudden emergence in the framework of Indian social and religious life is a mystery and a puzzle for students of Indian social history. Any piece of literature mentioning 'Devadāsīs' as a regular feature of society shows its early medieval character.

The practice of taking women of easy or doubtful virtues as wives, which is found in the Kathāsaritsāgara in the case of Anaṅgaprabhā¹⁰ and is corroborated by the Rājatarāṅgīnī,¹¹ portrays the society of early medieval India.

Some instances¹² of the re-marriage of widows as found in the Kathāsaritsāgara may apparently suggest that they depict the society of an earlier period. But a critical examination of these instances shows that they do not represent the general condition of the widows of the early medieval period. The instances are of Mālava, Paṇḍravardhana and Karkoṭaka (most probably Arakan¹³ according to Tawney).

In the field of religion we find Puranic Hinduism firmly established in society with Vedic sacrifices lingering and Buddhism gone to the background. This again depicts the religious condition of the early medieval period. The regard for the Buddha and his teachings, especially for his ideal of self-sacrifice for the good of others, along with the contempt for

¹ *E.I.*, II, pp. 7-17.

² A. L. Basham, *The Wonder that was India*, p. 165.

³ *KSS.*, XXII, 42-45.

⁴ A. S. Altekar, *Education in Ancient India*, pp. 125-27.

⁵ *Ibid.*, pp. 111-12.

⁶ *KSS.*, V, 100; LXXIII, 71; X, 17; LVIII, 38; LXXII, 387-88; XXVII, 88-98; LVIII, 55; LXXV, 185; LVIII, 65, 31.

⁷ A. S. Altekar, *The Position of Women in Hindu Civilization*, pp. 148-49.

⁸ *KSS.*, LVII, 74-75; XII, 80, 101.

⁹ A. S. Altekar, *The Position of Women in Hindu Civilization*, p. 150.

¹⁰ *KSS.*, LII, 358-66.

¹¹ *R.T.*, V, 360-87; VII, 856-57, 858.

¹² *KSS.*, XVIII, 259-89; 321-44; XCVIII, 47-50.

¹³ C. H. Tawney, *Ocean of Stories*, Vol. I, p. 136.

Buddhist female ascetics, again proves the early medieval character of the cultural data in the Kathāsaritsāgara. The practice of singing hymns before the deities, an early medieval practice, is also a noticeable feature of the religious life in the Kathāsaritsāgara.

Vadrikāśrama and Kaṅkhal, the two¹ holy places for pilgrimage as mentioned in the Kathāsaritsāgara, were holy places since the early medieval period. The mention of these two again makes the work sociologically true to the early medieval India.

In matters of food and drink we find the practice of meat-eating widely prevalent. Though we do not know if the statement of Fa-hsien that among upper classes meat-eating was not the practice is true to a certain extent (it being a result of the propagation and predominance of Buddhism since the days of Aśoka up to the time of Kaniska), the wide practice of meat-eating as found in the Kathāsaritsāgara² is in conformity with the picture given by Hsüan-tsang³ and other subsequent sources.⁴

The great belief in astrological predictions based on the study of planets, as found in the Kathāsaritsāgara, is also an early medieval Indian feature. It was by the time of Varāhamihira that Indian astrology came to be closely connected with astronomy. The future and fate of man began to be studied in the light of the nature of the planets under which he was born. Before this, fortune-telling was based on the study of auspicious and inauspicious marks on the limbs of the person and other physiological signs.⁵ In the Kathāsaritsāgara we find the former practice firmly established in society. Though marks of limbs were also studied, the serious decisions of life as regards marriage, etc., were made by the study of the stars of the person.⁶ Finally, in political life, we find fatalism well established in Somadeva's Kathāsaritsāgara and it is a marked feature of early medieval India.

We, however, can trace a few points which are true to the earlier period. Thus the instances of the pure type of Rākṣasa and Gāndharva marriages found in the Kathāsaritsāgara⁷ cannot be called true to early medieval India. No mention of Kanauj as a big and capital city of India and frequent mention of Pāṭaliputra, Ujjayinī, etc., also depict an earlier society. The stories of the Kathāsaritsāgara, being borrowed from earlier sources, naturally contain traces here and there of bygone days.

On the other hand, some social features of unbroken continuity since the Vedic days up-till the Muslim period are also traceable in the Kathāsaritsāgara. But these cannot be used as arguments to hold that the Kathāsaritsāgara does not depict the society of early medieval India. Thus, we find Brāhmaṇas taking to the profession of Kṣatriyas, a practice as much true to earlier years as to the early medieval age. Secondly,

¹ KSS., LII, 313; III, 4. Badarikā is one of the Vaiṣṇava *tīrthas* mentioned in the *Bārhaṣpatya Arthaśāstra* (III, 110-33). The temple is said to have been founded by the great teacher Śaṅkarācārya, a Mālābar Brāhmaṇa, who lived about the beginning of the eighth century A.D. Penzer, Vol. IV, pp. 159 ff.

² KSS., XXX, 97; VIII, 23-24; LXI, 282-84; LVI, 188; XXII, 128; LIV, 170-71; LXXX, 21; LXXIII, 246; LXXXIII, 24; VIII, 23-24.

³ S. Beal, *Buddhist Records of the Western World*, Vol. II, p. 143.

⁴ Kṣemendra, *Deśopadeśa*, Lesson VI, 28, Lesson III, 32; *Narmamālā*, Satire III, 68; *Samayamātrkā*, II, 22; *R.T.*, VIII, 676, 1866-67, 285-89. Al Birūnī, *Sachau*, Vol. II, p. 151.

⁵ A. L. Basham, *The Wonder that was India*, pp. 489-90.

⁶ KSS., CI, 118-19.

⁷ KSS., XLIV-L; III, 60-67; X, 146; VI, 13-15; LXXV, 131; LXXXVI, 113; VII, 82.

inter-caste marriages specially of 'anuloma' type as found in the Kathāsaritsāgara are true to the entire Hindu period. The fine and accomplished class of public women as seen in the Kathāsaritsāgara are found in the Indian society since the years of the Buddha who was kind to the illustrious courtesan Ambapālī. The miserable lot of the widows and the existence of female ascetics are two more features found in the Kathāsaritsāgara which are true to the ancient period in general. The practice of rice-eating and drinking wine, the practice of wearing ornaments by males and decorating themselves with flowers and with sandalwood ointment, the social vice of gambling and the popularity of hunting with royalties as a pastime, the practice of making fine floral decoration on limbs with sandalwood paste by women and of adorning themselves with flowers, the belief in magic, witchcraft and in the existence of semi-divine beings like Asuras and Rākṣasas, etc., all these, as found in the Kathāsaritsāgara, are true to the whole of the ancient period and not particularly to early medieval India.

CONTRIBUTIONS TO OUR KNOWLEDGE OF INDIAN FRESHWATER PLANTS

5. ON THE MORPHOLOGY, REPRODUCTION AND AUTECOLOGY OF *PISTIA STRATIOTES* LINN.*

By EVA MITRA

INTRODUCTION

Pistia stratiotes Linn. is widely distributed throughout the warmer parts of the plains of India. Valuable information of various aspects of the species are mentioned in the works of Roxburgh (1832), Griffith (1851), Engler and Prantl (1889), Hooker (1894), Campbell (1900-1905), Prain (1903, reprinted edition 1963), Arber (1920), Haines (1922), Eames and MacDaniels (1925, revised edition 1959), Hutchinson (1926), Coulter and Cowles (1931), Hutchinson and Dalziel (1931-1936), Lawrence (1951), Biswas (1954) and others. In this article the habit, external and internal morphology, reproduction, some experimental studies on the behaviour of the different vegetative parts and some physico-chemical conditions of existence of *Pistia stratiotes* have been dealt with in detail. This study has a direct bearing on the problem of weed control, as the means of control of any weed can be suggested only after knowing the details of the morphology and ecology of the species concerned.

HABIT

Pistia stratiotes belongs to the family Araceae. It is a free-floating, gregarious stoloniferous herb (Fig. 1). Each plant has a small tuber with a cup-like cluster of leaves on the upper side and a bunch of thread-like adventitious roots on the lower side. During the monsoon when the ponds overflow, the free-floating plants are carried far and wide to the adjoining river or ponds, canals and even find their way to surrounding marshy lands. After the rains when the water subsides the plants get stranded in the waterlogged, marshy land and in the hot weather when the areas dry up the plants also dry up. But if in this dry state they are carried to other tanks, or by some means they come in contact with water, they rejuvenate and grow up again under favourable conditions.

MORPHOLOGY

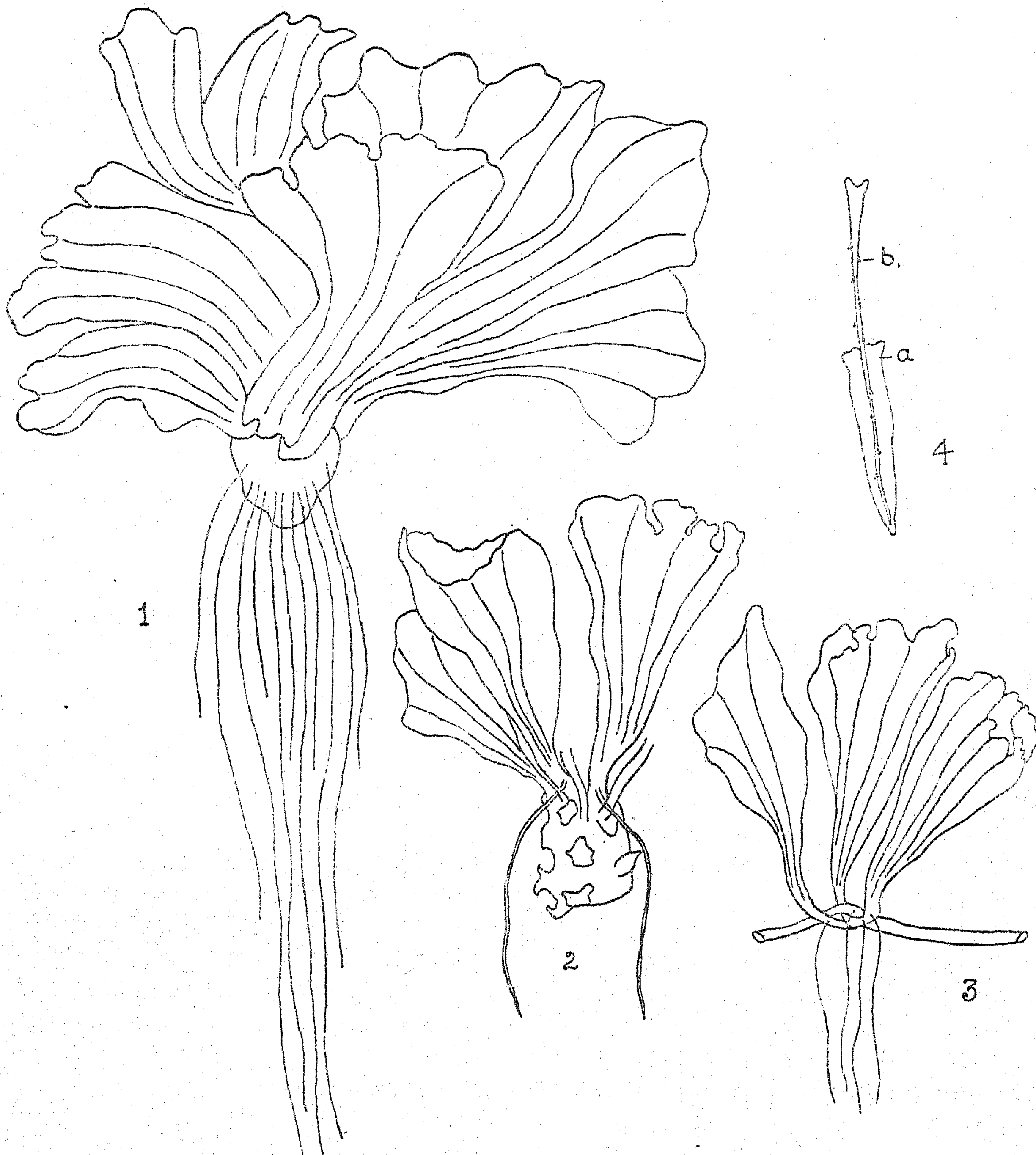
Tuber

The mature tubers, which remain partially submerged, are quite small in size generally varying between 7.0 and 15.0 mm. in length. The basal part of each mature tuber has the marks of the whorls of the fallen leaves and the apical side of the tuber bears the cup-like leaf whorls (Fig. 2). The roots develop on the tubers from the base of the last foliage whorl. The runners come out from the axils of some leaves and project into the water (Fig. 3). Multicellular hairs are present on the lower side of mature tubers.

* Published with the permission of the Director, Central Inland Fisheries Research Institute, Barrackpore.

Roots

The roots develop in thick clusters from the base of the lowermost whorl of foliage leaves. The tips of the roots are protected by root pockets which are longer and more conspicuous than the rootcaps of the soil roots. Root hairs are few and not much prominent (Fig. 4).



FIGS. 1 to 4. 1, *Pistia stratiotes*, plant nat. size; 2, plant showing the marks of fallen leaf whorls on the basal side of the tuber, nat. size; 3, axillary development of runners, nat. size; 4, root, $\times 10$; (4a), root pocket, (4b), root hairs.

Leaves

Leaves are arranged in close spiral around the apical part of the tuber. Each leaf is sessile, obovate-cuneate, entire with veins varying from 5 to 7 in number. Leaves are fleshy in texture with abundant hairs on the ventral surface. The vernation is involute (Fig. 5a). Gradually with the growth of the leaf, the lamina unrolls and extends to form the fully developed foliage (Fig. 5, b-d). Stomata are commonly present on the lower side

of each leaf (Fig. 5e). The structure of stomata is very simple. The stomatal pore is enclosed by two kidney-shaped guard cells, one on each side. As in most hydrophytes, here also, the inner cutin ridges of the guard cells are lacking.

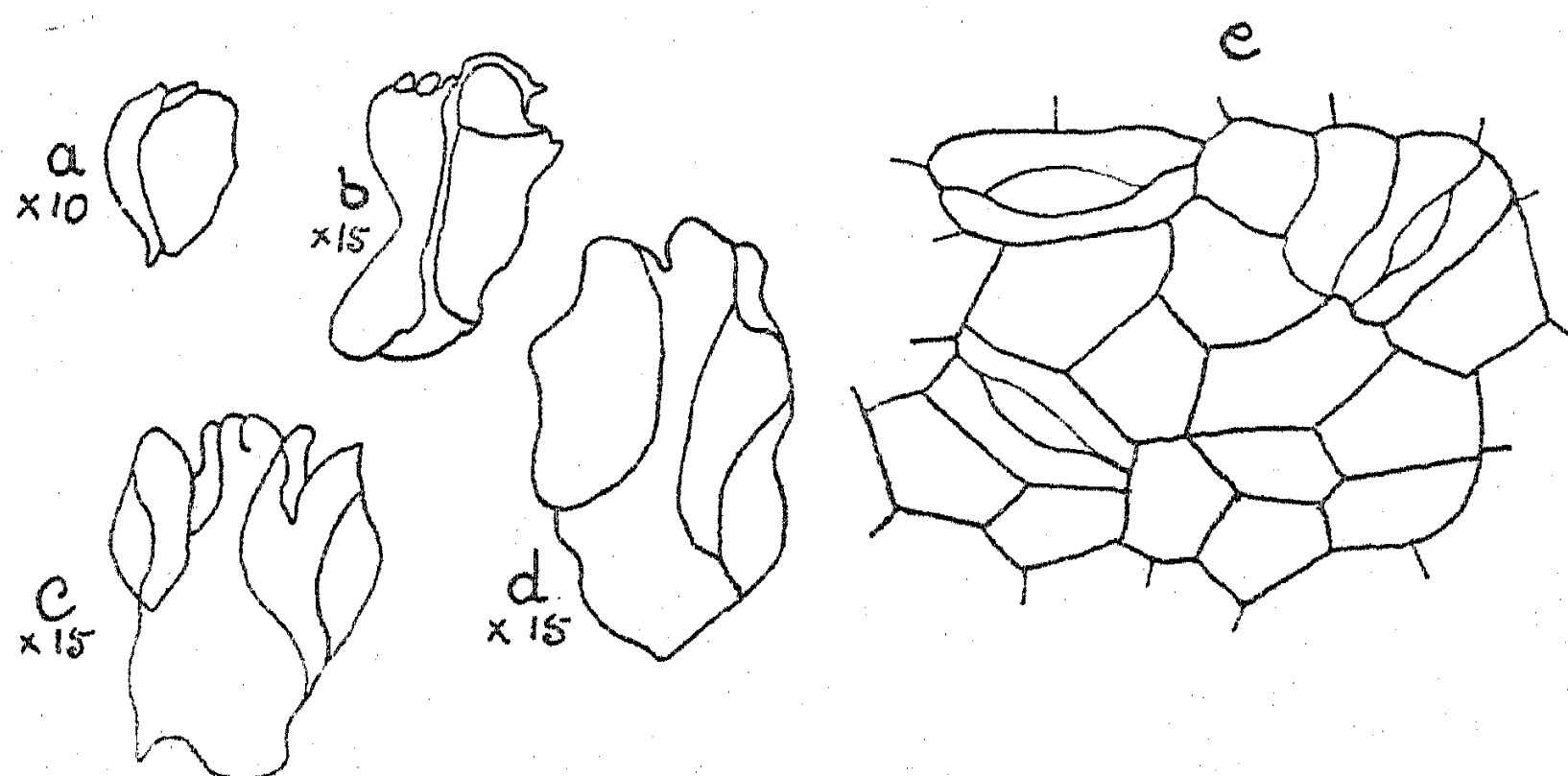


FIG. 5a-e. (a) leaf vernation; (b-d) opening of leaf from the bud stage; (e) stomata.

ANATOMY

Tuber

In transverse section it shows the following features (Fig. 6a):

Epidermis.—One-layered, parenchymatous cells but without any thickening on the outer wall.

Ground tissue.—Composed of irregular, parenchyma cells with air-chambers scattered all over. The airchambers have thin, one-celled diaphragms enclosing large airspaces. These diaphragms prevent the entire airchamber system from flooding when a part of the vegetative body is injured. Within these airchambers needle-shaped calcium oxalate crystals are present in cone-like bundles, these are known as raphides (Fig. 6f). Within the airspaces another type of star-shaped, globose crystals are present which are known as druses (Fig. 6e). Both the raphides and the druses provide mechanical support as well as protection against aquatic animals.

Vascular bundles.—Scattered all over the ground tissue. Each bundle is composed of one central vascular element surrounded by a few layers of small, closely set undifferentiated cells forming the conductive tissue.

Runner

In transverse section (Fig. 6b) and in longitudinal section (Fig. 6c) it shows the following features:

Epidermis.—Single-layered, small, regular cells with a thin outer wall.

Ground tissue.—Multilayered, loosely set, rhomboidal cells enclosing many larger and smaller airspaces. Both types of calcium oxalate crystals, the druses and the raphides, are present in the airspaces providing mechanical protection.

Vascular bundle.—Each bundle is composed of small, closely set parenchymatous-like cells. Vessels are absent.

Leaf

The following is the structure of leaf (Fig. 6d) :

Epidermis.—Single-layered and without any cuticle.

Ground tissue.—The mesophyll is composed of loosely arranged globular cells with large and small airspaces. The airspaces are much smaller in size than those present in the ground tissues of tuber or runner. Both druses and raphides are present in the airspaces to give mechanical support to the leaf.

Vascular bundle.—Regularly arranged in the ground tissue. Each bundle is having closely set parenchyma cells but vessels are absent.

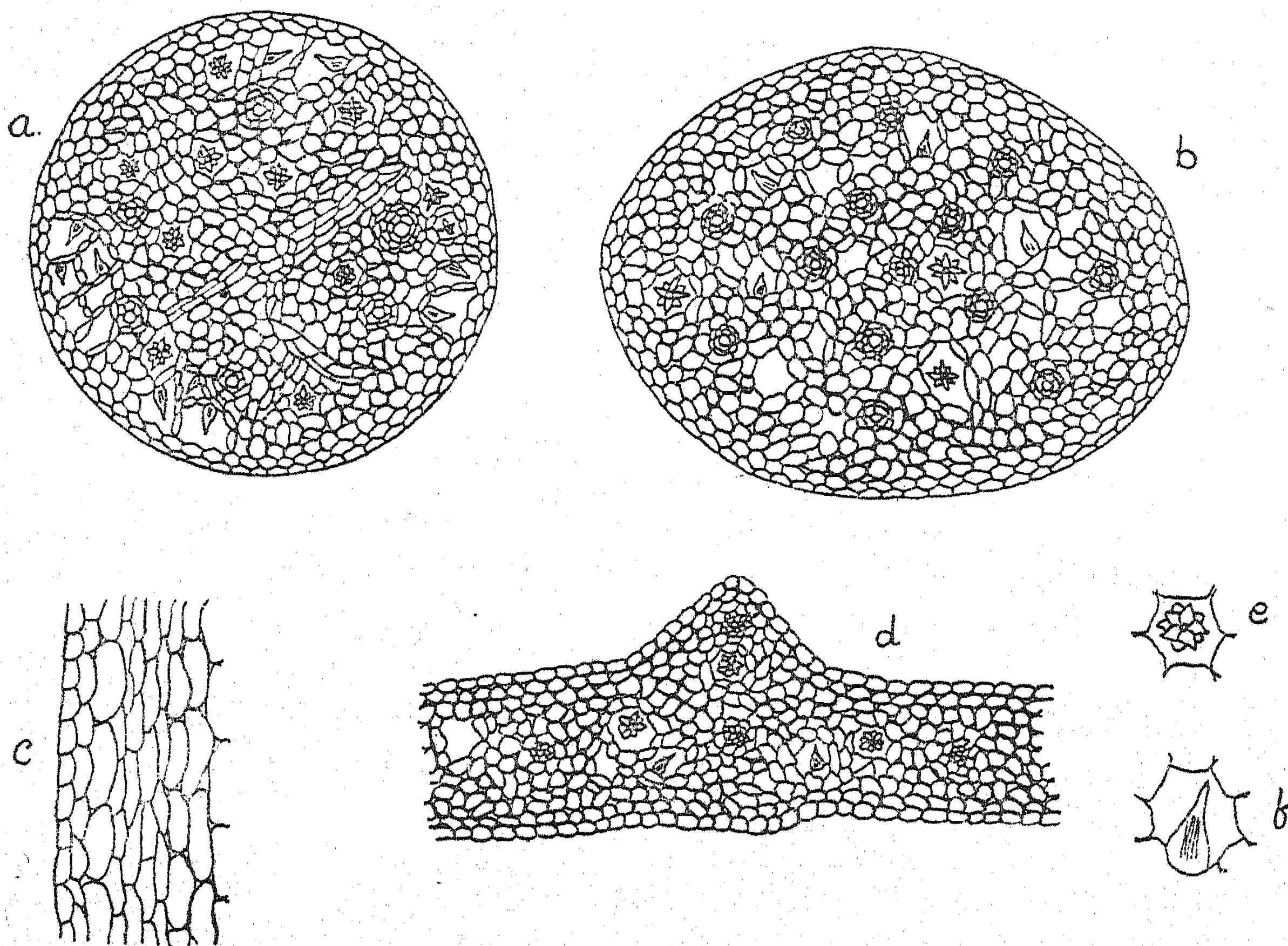


FIG. 6a-f. (a) transverse section of tuber; (b) transverse section of runner; (c) longitudinal section of runner; (d) transverse section of leaf; (e) calcium oxalate crystal druses; (f) calcium oxalate.

REPRODUCTION

Aquatic plants reproduce very quickly and in various ways. Arber (1920) states that *Pistia* represents a type which is singularly successful in the matter of vegetative growth. Its reproduction is observed to be so rapid that within no time it chokes water channels and proves a serious hindrance to navigation. In *Pistia stratiotes* the different modes of reproduction are vegetative and sexual.

A. Vegetative reproduction

- (i) Runners develop from all sides of the tuber of the parent plant. Each one of these runners develops at the apex a small bud which by gradual development forms a minute tuber with roots, rosettes of leaves and other vegetative parts, then this fully developed plant breaks off from the adjoining runner

attached to the main plant and floats away as an independent plant (Fig. 7a).

- (ii) In a tank when the growth of *Pistia* is very thick and no space is available between two plants for spreading, then a mature plant multiplies by developing vegetative buds on the tubers within the leaf rosettes of the mother plant. These buds develop further in that region to form new plants which come into prominence only when the mother plant dies (Fig. 7b).

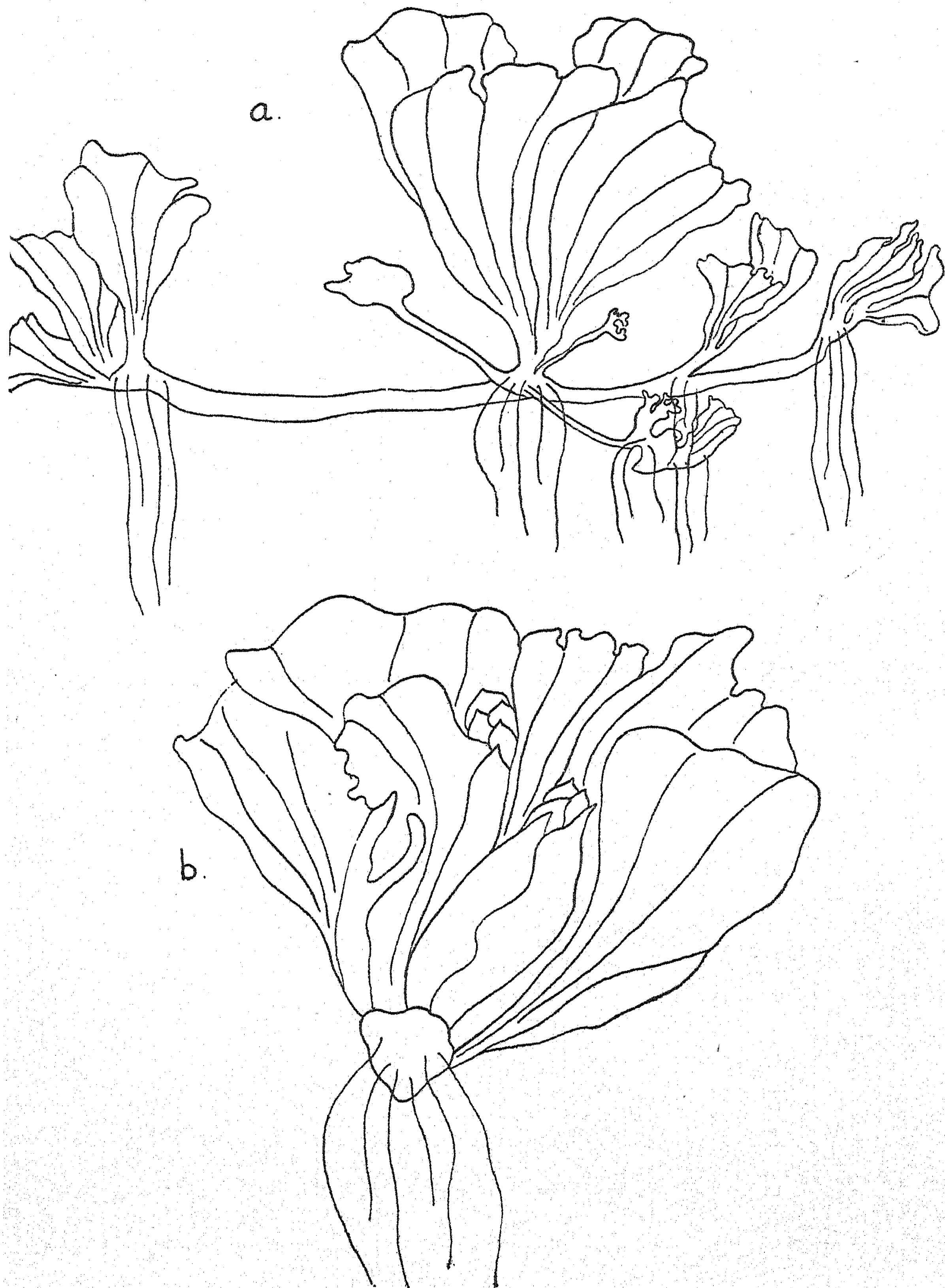


FIG. 7a-b. (a) runners developing from all sides of the tuber; (b) vegetative buds formed within the leaf rosettes on parent plant, nat. size.

- (iii) *Regeneration of the vegetative parts.*—During the summer when the *Pistia* plants are exposed to the strong sun they lose the healthy green colour and become yellowish. Later gradually the leaves dry up and fall off, most of the roots decay, and only the tubers in a decaying state continue to float. When the monsoon comes and improves both the environmental and atmospherical conditions, these naked half-dead tubers become green and healthy in appearance and gradually start developing roots and leaves and later float as healthy, independent plants. Instead of the rains if unfavourable hot and drought conditions continue to exist for long, then these naked tubers will ultimately die.

B. Sexual reproduction

Pistia starts flowering generally from the beginning of August and continues to flower till the middle of March. The inflorescence is a simple spadix subtended by a herbaceous spathe which is light green in colour and is monocerous (Fig. 8a-c). The male flowers are arranged on the upper region of the spadix and the female flower on the lower region.

Male inflorescence.—There are five to six flowers in the male inflorescence encircling the knob of a stalk (Fig. 8d). Each anther is two-celled (Fig. 8e) and each cell opens by vertical slits. All around the spathe there are hairs each of which is multicellular. The hairs which are attached to the upper part of the spadix have rounded cells and those on the lower region have elongated cells.

Just below the cluster of male flowers there are three leaf-like structures which are very prominent. These leaf-like structures shrink and fall, after the opening of the spathe. This structure is described by Roxburgh (1832) as a green, fleshy, crenulate, saucer-shaped body or upper nectary, from the centre of which rises the antheriferous column. Prain (1903)

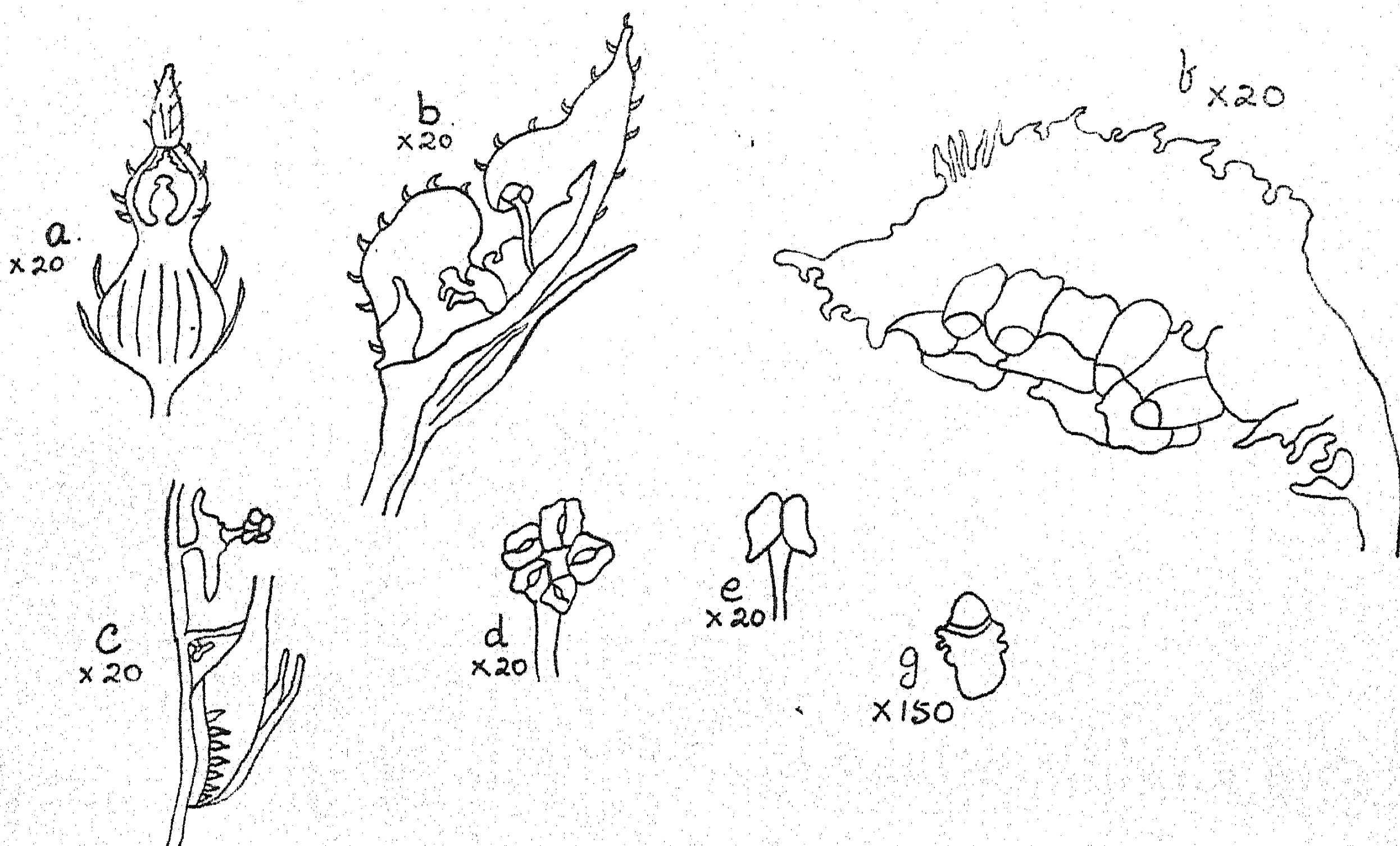


FIG. 8a-g. (a) inflorescence; (b) spathe removed; (c) longitudinal section of inflorescence; (d) male inflorescence; (e) bilocular anther; (f) ovules attached to the half-broken ovary; (g) seed.

described these structures as neuters, minute and connate in a ring below the males. Haines (1922) also described this structure as a ring of minute confluent neuters below the male flowers.

Female inflorescence.—In each spadix below the neuters there is only one female flower. It is placed on a bent thalamus but the flower develops straight. The ovary is unilocular and the orthotropous ovules are arranged in sub-parietal placentation. After the female flowers are pollinated the male flowers are shed by the inflorescence, the spadix then has only the fertilized female flower which stands erect for three to five days more. Pollination is either caused by wind or by insects. After pollination when the ovules are 2 to 3 mm. in length, the lower side of the ovary wall breaks and exposes the ovules attached to the placenta. After a day or two the entire broken female flower gets detached from the inflorescence and floats on the surface of the water. The ovules remain attached to the floating half-broken ovary (Fig. 8f) for three to five days after which they get dispersed. The seeds when disseminated (Fig. 8g) gradually sink and ripen under water. The number of seeds in each fruit generally varies from 6 to 10 and very rarely the number is more than 10. It has been generally observed that when the seeds are disseminated they do not sink immediately to the bottom of the pond but generally they stick to the thick cluster of the roots of the same plant and much later, by some sort of disturbance, the seeds fall off from the root clusters.

SEEDS AND THEIR GERMINATION

Under laboratory conditions from experimental studies it has been determined that 80 per cent of the disseminated seeds germinated almost immediately after a short dormant period. The rest of the 20 per cent showed some period of dormancy.

After dispersal, the seeds showed a very short dormant period and started germinating after about 14 to 35 days. The operculum which keeps the embryo covered within the seed protruded out first (Fig. 9a). Two to three days after a pair of foliage leaves started coming out (Fig. 9b). Gradually another pair of foliage leaves developed (Fig. 9c). With the growth of the second pair of foliage leaves the root also started developing (Fig. 9d), thus showing the lateral formation of roots as stated by Campbell (1900). The roots grew and also the second pair of foliage leaves opened up (Fig. 9e). The seed first lies horizontally on the bottom mud and, lying there, formation up to the second pair of foliage leaves occur. When the second pair of foliage open up fully the seed then leaves the bottom mud, comes up and floats vertically on the surface of the water. From the commencement of germination to floating up of the germinating seeds, the time taken is about 8 to 12 days. With the seed attached (Fig. 9f) the seedling floats for a week to about 10 days after which the seed gets detached and falls off. During the floating period with the seed attached, the plant develops a few more small roots. After the detachment of the seed the plant floats as a fully formed independent plant.

EXPERIMENTAL STUDIES ON THE ROLE OF ROOTS

It is generally known that absorption of nutrients in water-plants goes on throughout the whole surface of the different vegetative parts which are either submerged or in contact with the water surface. Controlled experiments were carried out to find the part played by the roots in absorption.

An earthenware tub of 40 cm. diameter and 32 cm. height was filled up with tap water and 10 cm. of soil at the bottom. Twenty-four mature,

healthy *Pistia* plants were put in the tub and allowed to grow in it for a month. After a month the roots from the base of 12 plants only were broken off and every day these plants were checked and whenever roots were found to be present on these plants they were broken off constantly for six months. The other 12 plants with all the roots intact were grown in the same tub as control specimens.

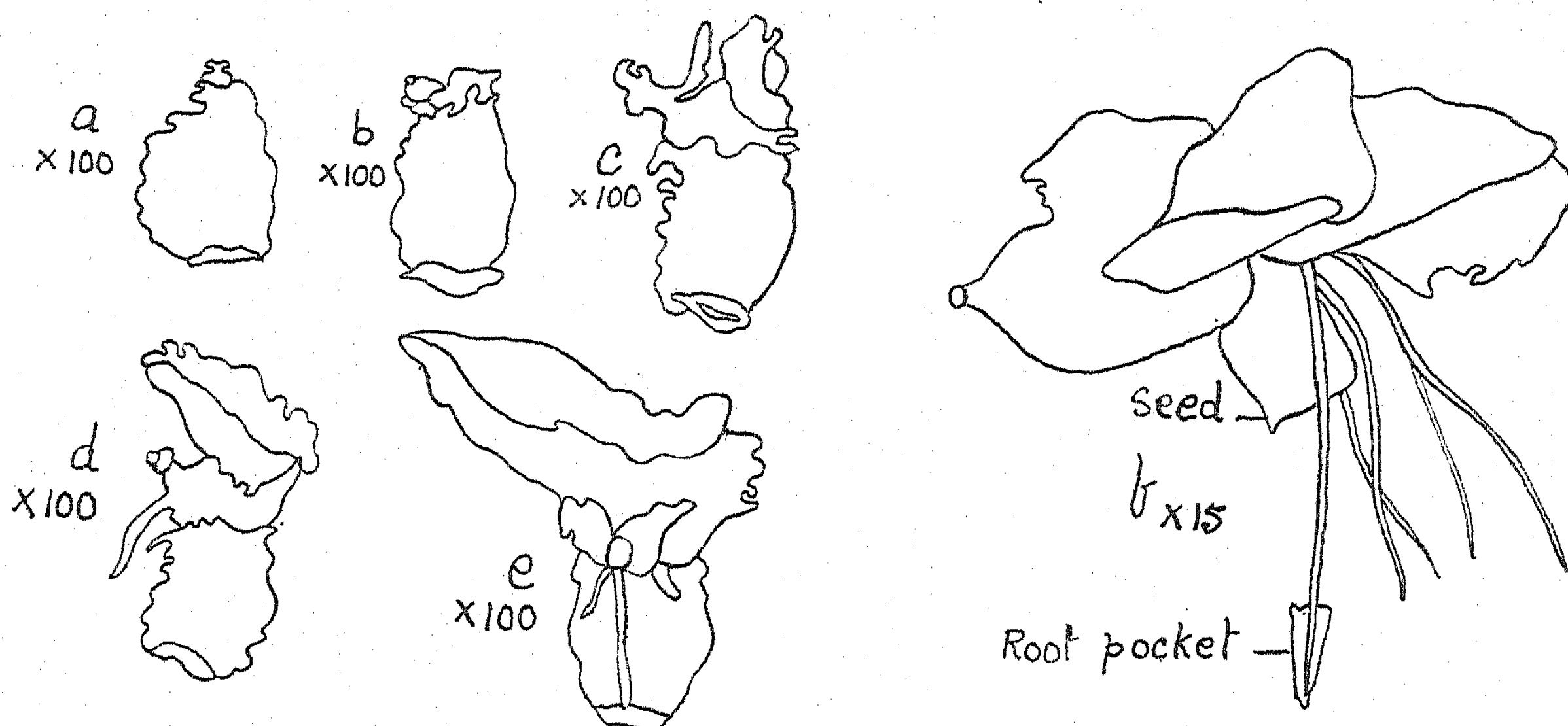


FIG. 9a-f. Seed germination. (a) Operculum protruding from the seed; (b) a pair of foliage leaves coming out; (c) second pair of foliage leaves developing; (d) root developing; (e) second pair of foliage opening up and the root showing growth; (f) seedling floating with the seed attached.

The behaviour of the plants with roots broken off and with roots intact is given in the table on page 123.

The experiment was repeated thrice with identical results. From this observation it can be stated that the roots play a very important role in absorption of nutrients. The experiments were carried out one from October to April and the two others from December to June. From the results of these experiments it can be stated that during any time of the year if the leaves and the roots of the *Pistia* plants are destroyed by any chance then the affected plants on getting favourable environment within five to six months will again develop like the normal healthy plants. But if continuously the roots and leaves are destroyed for more than eight months then that will help to destroy the floating, naked tubers completely.

SOME PHYSICO-CHEMICAL CONDITIONS OF EXISTENCE

I. *Pistia stratiotes* was collected from six different types of natural ponds in Cuttack, Orissa, and the abundance of the plant in each pond was studied once a month with the physico-chemical conditions of the water and the bottom soil. The measurements of the ponds varied from :

Length : 17.385 to 89.06 metres

Breadth : 15.555 to 46.36 metres

And the average depth : 1.068 to 2.593 metres.

Table I gives the physico-chemical conditions of the water.

Table II gives the condition of the bottom soil of each tank.

Table III shows the abundance of the vegetation.

| Plants | After 20-22 days | After 110 days | After 125 days | After 6 months | After 6½-7 months |
|--|---|--|--|---|---|
| <i>Pistia stratiotes</i> . From the base of 12 plants roots broken off. | Vigorous develop- ment of new roots continued. Later small, unhealthy root segments were developing. | The outer whorls of foliage leaves in a decaying state, the rest healthy. | Tuber and dis- coloured central leaves existing in a very unhealthy state. | Only the tuber pre- sent in a very un- healthy state. Six plants allowed to grow roots. Six remained rootless. | Six rootless plants further decayed. Six other plants grew healthy roots and later foliage started developing. |
| 12 plants kept intact with roots. | Plants healthy. | Plants healthy. | Plants healthy. | Plants healthy. | Plants healthy. |

TABLE II

*Soil conditions of the natural ponds**

| | Tank No. 1 | | | Tank No. 2 | | | Tank No. 3 | | | Tank No. 4 | | | Tank No. 5 | | | Tank No. 6 | | |
|-----------|------------|-----------|-----------------------------------|------------|-----------|-----------------------------------|------------|-----------|-----------------------------------|------------|-----------|-----------------------------------|------------|-----------|-----------------------------------|------------|-----------|-----------------------------------|
| | pH | Av. N | Av. P ₂ O ₅ | pH | Av. N | Av. P ₂ O ₅ | pH | Av. N | Av. P ₂ O ₅ | pH | Av. N | Av. P ₂ O ₅ | pH | Av. N | Av. P ₂ O ₅ | pH | Av. N | Av. P ₂ O ₅ |
| 1958 | | | | | | | | | | | | | | | | | | |
| January | 6.8 | 29.1 | 24.6 | 6.8 | 29.7 | 26.0 | 7.2 | 26.9 | 20.0 | 7.3 | 44.8 | 30.0 | 7.1 | 29.7 | 32.4 | 7.3 | 31.4 | 40.2 |
| February | 6.8 | 29.4 | 26.0 | 6.7 | 32.0 | 26.0 | 7.1 | 30.1 | 21.6 | 7.1 | 44.0 | 32.0 | 7.0 | 30.6 | 32.2 | 7.2 | 32.6 | 42.0 |
| March | 6.6 | 30.2 | 26.2 | 6.7 | 38.1 | 28.0 | 7.1 | 34.6 | 24.2 | 7.1 | 46.2 | 40.0 | 7.0 | 37.5 | 34.6 | 7.1 | 31.8 | 48.4 |
| April | 6.5 | 40.0 | 32.0 | 6.6 | 38.1 | 36.0 | 6.9 | 38.0 | 32.4 | 7.0 | 46.8 | 40.0 | 7.0 | 37.5 | 42.2 | 6.9 | 36.6 | 60.4 |
| May | 6.5 | 45.0 | 36.4 | 6.4 | 52.1 | 38.0 | 6.8 | 40.3 | 34.2 | 6.8 | 54.8 | 60.0 | 6.8 | 50.5 | 50.6 | 6.7 | 38.8 | 60.8 |
| June | 6.5 | 36.8 | 30.2 | 6.4 | 39.8 | 36.0 | 6.6 | 49.4 | 28.0 | 6.8 | 48.8 | 50.0 | 6.8 | 48.8 | 50.0 | 6.8 | 37.0 | 55.6 |
| July | 6.7 | 30.0 | 24.8 | 6.7 | 38.0 | 30.0 | 6.8 | 38.4 | 24.6 | 7.2 | 40.2 | 45.2 | 6.9 | 36.0 | 42.2 | 7.0 | 30.1 | 48.2 |
| August | 6.8 | 28.0 | 24.4 | 6.9 | 37.5 | 28.0 | 6.9 | 26.2 | 24.2 | 7.1 | 40.0 | 43.8 | 6.9 | 29.1 | 40.6 | 7.0 | 30.2 | 44.4 |
| September | 6.8 | 30.0 | 24.2 | 7.0 | 25.7 | 28.0 | 6.9 | 24.8 | 24.0 | 7.2 | 40.4 | 42.0 | 7.1 | 31.3 | 40.0 | 7.1 | 31.0 | 44.6 |
| October | 6.9 | 32.4 | 22.8 | 6.8 | 26.2 | 24.0 | 6.8 | 26.4 | 24.0 | 7.1 | 38.0 | 37.6 | 7.3 | 30.2 | 38.2 | 7.2 | 31.0 | 42.0 |
| November | 6.9 | 31.9 | 20.4 | 6.8 | 26.6 | 24.0 | 6.9 | 24.2 | 24.0 | 7.2 | 36.4 | 36.4 | 7.2 | 29.8 | 36.8 | 7.4 | 30.6 | 38.2 |
| December | 6.9 | 30.0 | 20.6 | 6.9 | 28.5 | 22.0 | 6.9 | 21.8 | 21.8 | 7.2 | 35.3 | 34.0 | 7.2 | 29.0 | 36.0 | 7.3 | 29.7 | 36.8 |
| Range | 6.5-6.9 | 29.1-45.0 | 20.4-36.4 | 6.4-7.0 | 25.7-52.1 | 22.0-38.0 | 6.6-7.2 | 21.8-49.4 | 20.0-34.2 | 6.8-7.3 | 35.3-54.8 | 30.0-60.0 | 6.8-7.3 | 29.0-50.5 | 32.2-50.6 | 6.7-7.4 | 29.7-38.8 | 36.8-60.8 |
| Average | 6.7 | 33.6 | 26.1 | 6.6 | 34.4 | 29.0 | 6.9 | 31.8 | 25.3 | 7.1 | 43.0 | 41.0 | 7.0 | 35.8 | 39.7 | 7.1 | 32.6 | 46.9 |

* Results expressed as mg./100 gms.

TABLE I
Physico-chemical conditions of the natural ponds*

| 1958 | Tank No. 1 | | | | Tank No. 2 | | | | Tank No. 3 | | | | Tank No. 4 | | | | Tank No. 5 | | | | Tank No. 6 | | | |
|--------------|------------|---|-------------------|-------------------------------|------------|-------------------|-------------------|-------------------------------|------------|-------------------|-------------------|-------------------------------|------------|-------------------|-------------------|-------------------------------|------------|-------------------|-------------------|-------------------------------|------------|-------------------|-------------------|-------------------------------|
| | pH | Total alka- linity CaCO ₃ | NO ₃ N | P ₂ O ₅ | pH | CaCO ₃ | NO ₃ N | P ₂ O ₅ | pH | CaCO ₃ | NO ₃ N | P ₂ O ₅ | pH | CaCO ₃ | NO ₃ N | P ₂ O ₅ | pH | CaCO ₃ | NO ₃ N | P ₂ O ₅ | pH | CaCO ₃ | NO ₃ N | P ₂ O ₅ |
| January .. | 8.2 | 140 | 0.04 | 0.30 | 8.2 | 38 | 0.03 | 0.20 | 8.2 | 80 | 0.04 | 0.16 | 8.2 | 268 | 0.05 | 0.60 | 8.6 | 174 | 0.05 | 0.20 | 8.0 | 272 | 0.04 | 1.6 |
| February .. | 8.2 | 140 | 0.05 | 0.52 | 8.2 | 54 | 0.04 | 0.20 | 8.0 | 88 | 0.05 | 0.32 | 8.2 | 308 | 0.08 | 0.82 | 8.8 | 202 | 0.08 | 0.80 | 8.2 | 360 | 0.08 | 1.6 |
| March .. | 8.2 | 160 | 0.08 | 0.68 | 8.2 | 68 | 0.06 | 0.38 | 8.0 | 88 | 0.06 | 0.42 | 8.3 | 324 | 0.08 | 0.84 | 8.4 | 224 | 0.08 | 1.6 | 8.4 | 456 | 0.08 | 2.0 |
| April .. | 8.2 | 210 | 0.08 | 1.2 | 8.1 | 90 | 0.12 | 0.40 | 8.2 | 90 | 0.08 | 0.52 | 8.0 | 334 | 0.16 | 1.8 | 8.6 | 340 | 0.16 | 2.4 | 8.6 | 580 | 0.12 | 3.5 |
| May .. | 8.2 | 252 | 0.12 | 1.4 | 8.0 | 137 | 0.18 | 1.2 | 8.2 | 92 | 0.16 | 0.92 | 8.0 | 348 | 0.28 | 4.0 | 8.8 | 372 | 0.20 | 1.6 | 8.8 | 592 | 0.20 | 4.0 |
| June .. | 8.0 | 140 | 0.12 | 0.76 | 8.1 | 48 | 0.08 | 0.80 | 8.0 | 72 | 0.10 | 0.72 | 7.9 | 144 | 0.20 | 3.2 | 8.6 | 264 | 0.16 | 1.6 | 8.6 | 432 | 0.12 | 3.5 |
| July .. | 8.2 | 132 | 0.07 | 0.78 | 8.2 | 40 | 0.04 | 0.78 | 8.0 | 30 | 0.06 | 0.52 | 8.3 | 160 | 0.18 | 3.0 | 8.4 | 260 | 0.12 | 0.72 | 8.4 | 338 | 0.15 | 3.0 |
| August .. | 8.4 | 136 | 0.07 | 0.70 | 8.0 | 40 | 0.05 | 0.76 | 8.4 | 44 | 0.05 | 0.40 | 8.3 | 168 | 0.16 | 2.8 | 8.1 | 224 | 0.10 | 0.80 | 8.5 | 294 | 0.10 | 3.2 |
| September .. | 8.4 | 140 | 0.05 | 0.70 | 8.2 | 42 | 0.05 | 0.68 | 8.4 | 48 | 0.04 | 0.35 | 8.2 | 188 | 0.16 | 1.8 | 8.2 | 180 | 0.08 | 0.68 | 8.5 | 256 | 0.08 | 2.4 |
| October .. | 8.3 | 140 | 0.05 | 0.60 | 8.3 | 40 | 0.05 | 0.46 | 8.4 | 48 | 0.04 | 0.30 | 8.1 | 192 | 0.10 | 1.6 | 8.4 | 148 | 0.06 | 0.70 | 8.5 | 256 | 0.15 | 2.0 |
| November .. | 8.3 | 144 | 0.06 | 0.32 | 8.3 | 42 | 0.05 | 0.38 | 8.4 | 54 | 0.05 | 0.25 | 8.2 | 238 | 0.12 | 1.2 | 8.2 | 152 | 0.06 | 0.32 | 8.4 | 264 | 0.08 | 2.4 |
| December .. | 8.4 | 146 | 0.04 | 0.35 | 8.3 | 38 | 0.04 | 0.30 | 8.4 | 62 | 0.04 | 0.20 | 8.3 | 276 | 0.10 | 0.84 | 8.2 | 156 | 0.07 | 0.30 | 8.5 | 276 | 0.20 | 2.8 |
| Range .. | 8.0-8.4 | 132-252 | 0.04-0.12 | 0.30-1.4 | 8.0-8.3 | 38-137 | 0.03-0.18 | 0.20-1.20 | 8.0-8.4 | 30-92 | 0.04-0.16 | 0.16-0.92 | 7.9-8.3 | 144-348 | 0.05-0.28 | 0.60-4.0 | 8.1-8.8 | 148-372 | 0.05-0.20 | 0.20-2.4 | 8.0-8.8 | 256-592 | 0.04-0.20 | 1.6-4.0 |
| Average .. | 8.3 | 157 | 0.07 | 0.69 | 8.2 | 56.4 | 0.07 | 0.55 | 8.2 | 66 | 0.06 | 0.42 | 8.2 | 246 | 0.14 | 1.88 | 8.6 | 225 | 0.10 | 0.98 | 8.5 | 365 | 0.12 | 2.7 |

* Results expressed as mg./litre.

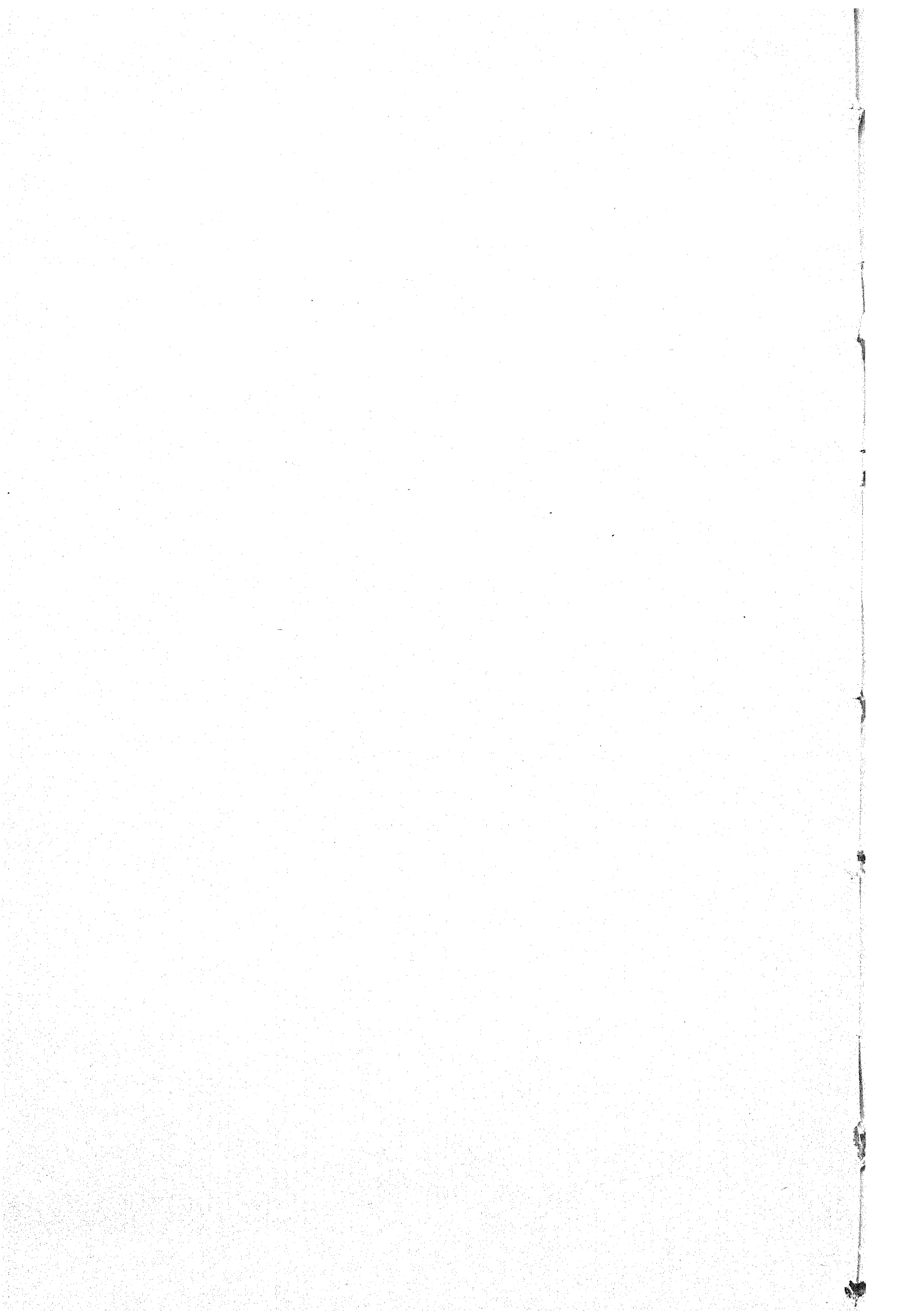


TABLE III

Abundance of Pistia stratiotes Linn. in different months of the year in the natural ponds

| 1958 | Tank No. 1 Length 169 ft. Breadth 152 ft. Av. depth 7½ ft. | Tank No. 2 Length 57 ft. Breadth 51 ft. Av. depth 5 ft. | Tank No. 3 Length 213 ft. Breadth 139 ft. Av. depth 8½ ft. | Tank No. 4 Length 292 ft. Breadth 145 ft. Av. depth 4 ft. | Tank No. 5 Length 113 ft. Breadth 60 ft. Av. depth 3 ft. | Tank No. 6 Length 124 ft. Breadth 97 ft. Av. depth 6 ft. |
|-----------|---|--|---|--|---|---|
| January | A | A | A | A | C | Sc |
| February | A | A | Cleaned by manual labour. | A | Sc | Sc |
| March | A | C | Sc | A | Sc | Sc |
| April | A | C | Sc | A | Sc | Completely taken out |
| May | A | Sc | Sc | A | Sc | Sc |
| June | Sc | A | Sc | A | Sc | Cleaned |
| August | A | A | A | A | Sc | Nil |
| September | A | A | A | Sc | Sc | Nil |
| October | A | A | C | Sc | A | Sc |
| November | A | C | A | A | A | Sc |
| December | Sc | Sc | A | A | A | A |

A = Abundant; Sc = Scattered; C = Common.
 Cleaning is done everywhere by manual labour.

Table IV gives the measurements of the vegetative parts. From the monthly observations of these ponds it can be stated that *Pistia stratiotes* can tolerate water having:

pH: 7.9 to 8.8

Nitrate: 0.03 to 0.28 mg./litre

Phosphate: 0.16 to 4.0 mg./litres

Total alkalinity: 30.0 to 592.0 mg./litres

Soil having pH: 6.4 to 7.4.

Available nitrogen: 21.8 to 54.8 mg./100 gms.

Available phosphorus: 20.0 to 60.8 mg./100 gms.

From the study of the abundance of the vegetation (Table III) and from the measurements of the vegetative parts (Table IV), it can be stated that the abundance of the plant is not much affected throughout the year. Only morphological variations are observed during the different seasons of the year.

II. (a) The first set of experiment was set up to find out the tolerance of acidic or alkaline waters by *Pistia*. Six cylindrical glass jars, each jar 30 cm. in height and 20 cm. in diameter, were used. In each jar 5 cm. of soil, 20 cm. of tap water in height and 12 healthy *Pistia* plants were put in. The pH of the water in some jars were lowered up to the tenth day with the addition of concentrated sulphuric acid and in some jars it was increased with the addition of sodium hydroxide. The set-up of the experiment was as shown in the table on page 127.

The plants started showing degeneration in the acidic range from the third day and decayed completely within about 19 days. In these jars in which the plants decayed zooplankton and phytoplankton started developing from the nineteenth day and later they increased in abundance. The following phytoplankton were present:

| | | |
|---------------------------|----|----------|
| <i>Oedogonium</i> sp. | .. | Common |
| <i>Microspora</i> sp. | .. | Abundant |
| <i>Chlamydomonas</i> sp. | .. | Common |
| <i>Navicula</i> sp. | .. | Common |
| <i>Pinnularia</i> sp. | .. | Common |
| <i>Cosmarium</i> sp. | .. | Common |
| <i>Caloneis</i> sp. | .. | Common |
| <i>Scenedesmus</i> sp. | .. | Common |
| <i>Fragillaria</i> sp. | .. | Common |
| <i>Pediastrum</i> sp. | .. | Few |
| <i>Amphora</i> sp. | .. | Few |
| <i>Eunotia</i> sp. | .. | Few |
| <i>Synedra</i> sp. | .. | Few |
| <i>Ankistrodesmus</i> sp. | .. | Few |
| <i>Tetraedron</i> sp. | .. | Common |

The following zooplankton were present:

| | | |
|------------------------|----|----------|
| Rotifer | .. | Abundant |
| <i>Paramoecium</i> sp. | .. | Abundant |
| <i>Diffusia</i> sp. | .. | Few |
| <i>Vorticella</i> sp. | .. | Abundant |

All the above-mentioned phytoplankton and zooplankton species serve as healthy food of major carps. Both the control and the alkaline jars in which the plant survived healthily, there was no growth of plankton flora or fauna. The experiment was repeated thrice with similar results.

| Jar Nos. | pH of the jars adjusted up to the 10th day | Observation | | | |
|-------------|---|---|---------------------------------|--|---|
| | | 3rd day | 7th day | 19th day | 50th day |
| 1 } 2 } | Control pH 7.5-8.0 | Healthy plants. | Healthy plants. | Healthy plants. | Healthy plants. Plankton nil. |
| 3 | Acidic range | The foliage leaves opened up and yellowish in colour. | Almost completely de- cayed. | Plants completely de- cayed. Colour of the water slightly green. Phytoplankton and zoo- plankton many. | Plants completely de- cayed. Abundant phyto- plankton and zooplank- ton. ,, |
| 4 | pH 3.5-4.0 | Roots are white and very unhealthy. | | | |
| 5 6 | Alkaline range pH 11.0-12.0 | Healthy plants. | Healthy plants. | Healthy plants. | Healthy plants. Plankton nil. |

TABLE IV

Measurements of vegetative parts of healthy Pistia stratiotes Linn.

| 1958 | Root length (mm.) | Leaf | | | Vegetative reproduction | |
|--------------------------------------|----------------------|-------------------|------------------|--------------------|---------------------------------|---------------------------------|
| | | length (mm.) | width (mm.) | Number of veins | Number of plants in clusters | Number of buds in each plant |
| Tank No. 1 June .. November .. | 5.7-11.5 175-247 | 6.5-8.8 48-50 | 3.8-5.0 30-60 | 7 5-7 | 2-11 3-8 | 1-3 1-5 |
| Tank No. 2 June .. November .. | 3.1-19.6 90-355 | 2.7-3.9 42-80 | 2.0-3.0 36-55 | 5 7 | 3-9 3-8 | 1-4 2-4 |
| Tank No. 3 June .. November .. | 18.7-42.0 106-240 | 3.1-5.4 39-77 | 2.5-4.7 31-54 | 5-7 6-7 | 3-7 5-9 | 1-3 2-4 |
| Tank No. 4 June .. November .. | 11.3-26.8 112-245 | 3.2-4.5 45-100 | 2.3-3.8 32-50 | 5-7 0-7 | 4-10 3-6 | 1-4 1-2 |
| Tank No. 5 June .. November .. | 5.4-12.8 100-290 | 2.7-4.1 30-41 | 2.1-3.3 21-42 | 5-7 5-7 | 4-17 4-12 | 1-3 2-4 |
| Tank No. 6 June .. November .. | 2.1-15.5 40-127 | 3.0-4.5 37-72 | 2.8-3.9 25-45 | 5-7 6-7 | 2-4 2-9 | 1-2 1-3 |

(b) *Second set of experiment :*

In the previous set of experiments (a) *Pistia* plants showed decomposition in acidic waters only, so in this set of experiment the pH of the water in jars was kept in acidic range only, between 3.5 and 5.0. Eight cylindrical glass jars were taken and the set-up of the experiment was as follows:

| Jar Nos. | pH of the jars | Observation | | |
|----------|-----------------------|---|--|---|
| | | 2nd day | 6th day | 13th day |
| 1) 2) | Control pH 7.5-8.0 | Healthy plants. | Healthy plants. | Healthy plants. |
| 3 | pH 5.0 | The plants just opening up and the roots just started curving. | Only the outermost whorl of foliage has yellow tips and a slight unhealthy appearance. | The decaying plants decayed further but still most of them are in a floating and healthy state. |
| 4 | | | Most of the plants dead and decaying. | Decaying plants decayed further. |
| 5 | pH 4.0 | Plants opened up and the leaves have lost the healthy green colour. | Decayed further. | Decayed further. |
| 6 | | The roots are unhealthy white and curving up. | Decayed further. | Decayed further. |
| 7 | pH 3.5 | All plants completely opened up, 90 per cent leaves have brown colour, rest brownish green. | Decayed further. | Decayed almost completely. |
| 8 | | Roots unhealthy white and curved up. | | Plankton just started developing. |

The pH in the different jars was adjusted by adding moderately concentrate sulphuric acid as required. On the second day from the application of acid the plants in jar Nos. 3 and 4 showed affected similarly but later the plants in jar No. 3 were healthy and those in jar No. 4 showed decay to some extent. In jar Nos. 5, 6, 7 and 8 there was complete decay of the plants but in 13 days the decay was most in jar No. 8. The experiment was repeated thrice with similar results.

(c) *Third set of experiment :*

In this experiment in each jar a measured quantity of concentrated sulphuric acid was put in, after which a record of the pH was kept. The set-up of the experiment was as shown in the table on page 130.

| Jar Nos. | Addition of concentrated sulphuric acid | pH of the jars | Observation | | | |
|------------|---|----------------|--------------------------|--|--|---|
| | | | 2nd day | 6th day | 11th day | 18th day |
| 1 } 2 } | Control nil. | 7.0 | Healthy plants. | Healthy plants. | Healthy plants. | Healthy plants. |
| 3 | 0.1 cc. per litre of water. | 6.5 | No change in the plants. | Plants decayed to some extent. | The roots black, outermost whorl of foliage decayed. Other leaves green with edges yellow. | 50% dead and 50% in an unhealthy state. |
| 4 | 0.1 cc. per litre of water. | 6.4 | No change in the plants. | Plants decaying but in some plants still innermost leaves are green and healthy. | Roots of all plants decayed and also the leaves of most plants decayed. A few plants having the innermost whorl green. | 80% dead and 20% in an unhealthy state. |
| 5 | 0.05 cc. per litre of water. | 6.6 | No change in the plants. | Not much affected. | Plants not very healthy with yellow green coloured leaves. | 20% dead and 80% in an unhealthy state. |
| 6 | 0.05 cc. per litre of water. | 6.4 | No change in the plants. | Not much affected. | Not much affected. | Not much affected. |
| 7 8 | 0.025 cc. per litre of water. In each jar. | 6.4 6.0 | No change in the plants. | Healthy plants. | Healthy plants. | Healthy plants. |

It is observed from the above table that concentrated sulphuric acid when added from 0.1 cc. to 0.025 cc. per litre of water in each jar, the variation in the change of pH of the water is almost negligible. But the jars in which 0.1 cc. per litre of water and acid is added the decay of plants is much more in 18 days than in jars where lower dosage of acid is added.

By comparing the results of all the above experiments it is observed that pH was not the only factor causing the death of the plants. The addition of 0.1 cc. of concentrated sulphuric acid per litre of water showed the death and decomposition of plants more in one jar than the other but in both the jars the plants were affected to a great extent. The plants in the jars treated with 0.05 cc. of acid per litre of water were affected slightly. From this it can be stated that with the addition of acid in water there might be some other change in the physico-chemical condition of the water.

(d) *Fourth set of experiment:*

Basing on the previous experiment another experiment was set up in which measured quantity of concentrated sulphuric acid was added as before and a record of the phosphate content of the water was kept in addition.

Three cylindrical glass jars as before were taken. In each jar measured quantity of tap water and four healthy *Pistia* plants were put in. In each of the two jars, measured quantity of concentrated sulphuric acid was added and the third jar was kept as control. The following are the changes of pH and phosphate content of the water:

| Date | Control Jar | | Jar No. 1 | | Jar No. 2 | |
|---------|--------------|---------------------|--|---------------------|-----------|---------------------|
| | pH | Phosphate p.p.m. | pH | Phosphate p.p.m. | pH | Phosphate p.p.m. |
| 28-8-58 | 7.1 | Trace | 7.5 | Trace | 7.5 | 0.04 |
| 30-8-58 | No Treatment | | Concentrated sulphuric acid added in each jar at the rate of 1.0 cc. per litre of water at 3.30 p.m. | | | |
| — | | | 4.8 | 7.4 | 4.6 | 8.7 |
| 1-9-58 | 7.1 | Trace | 6.0 | 5.2 | 6.0 | 6.8 |
| 3-9-58 | | | 6.2 | 6.2 | 6.2 | 6.2 |
| 5-9-58 | | | 6.4 | 6.4 | 6.4 | 6.2 |
| 10-9-58 | 7.0 | Trace | 6.7 | 6.6 | 6.7 | 6.4 |
| 17-9-58 | 7.0 | 0.04 | 7.2 | 4.5 | 7.1 | 5.0 |
| 25-9-58 | 7.0 | Trace | 7.3 | 4.0 | 8.3 | 4.5 |

Pistia stratiotes showed healthy growth in the control jar only where the phosphate content was merely traces. In the experimental jars, where the phosphate content was 4.0 to 8.7 p.p.m. after the addition of concentrated sulphuric acid, *Pistia* not only could not survive healthily but showed signs of decay. In both jars the phosphate content was more after the addition of concentrated sulphuric acid at the rate of 1.0 cc. per litre of water for about 12 days only. The destruction of the plants started during that time and also continued later.

III. In natural tanks it is observed that the *Pistia* plants survived healthily when the phosphate content of the water varied from 0.16 to 4.0 mg./litre and nitrate content varied from 0.03 to 0.28 mg./litre. A laboratory experiment was set up with a standard solution, in which the phosphate and nitrate contents of the water were different than the amount present in natural waters, to find out whether *Pistia* could tolerate healthily such conditions or not for existence. The standard solution used was Knop's solution which was as follows:

| | | |
|--------------------------------|----|-----------|
| Calcium nitrate | .. | 0.8 gm. |
| Potassium nitrate | .. | 0.2 gm. |
| Potassium dihydrogen phosphate | .. | 0.2 gm. |
| Magnesium phosphate | .. | 0.2 gm. |
| Ferric phosphate | .. | Trace |
| Water | .. | 1,000 cc. |

Tap water was used for making the solution. Chemical content of tap water was as follows:

| | | |
|------------------|----|-------------|
| pH | .. | 7.8 |
| Total alkalinity | .. | 74 p.p.m. |
| Phosphate | .. | 0.08 p.p.m. |
| Nitrate | .. | 0.6 p.p.m. |

From Table V it is observed that the Knop's solution in tap water in which the *Pistia* plants were grown, the phosphate content of the water varied from 1.5 to 19.98 p.p.m. and the nitrate content varied from 75 to 115 p.p.m., whereas in the control jars the phosphate content varied from trace to 2.96 p.p.m. The plants were healthy in control jars with soil and also healthily surviving in control jars without soil, but in the three experimental jars the plants were completely dead and decayed within 29 days. In natural tank waters the phosphate content varied from 0.16 to 4.0 mg./litre and nitrate content varied from 0.03 to 0.28 mg./litre. Already from experiment II (d) it is observed that *Pistia* can partially tolerate to some extent in an unhealthy manner phosphate content from 4.0 to 8.7 p.p.m. In the control tubs the *Pistia* plants survived very healthily, the phosphate content varied from 0.1 to 0.76 p.p.m. The nitrate content of water in these tubs is also much less than the jars in which the plants are growing in culture solution, so from the above observations it can be stated that the excess amount of the nitrate content in the experimental jars, that is 75 to 115 p.p.m., is responsible in combination with the phosphate content of water which is also more than in natural waters for the destruction and decomposition of the *Pistia* plants within 25 to 30 days.

IV. *Type of substratum tolerated by Pistia stratiotes*

A laboratory experiment was set up with different types of soil to find out the type of substratum required for healthy growth of *Pistia stratiotes* plants.

TABLE V
Growth of *Pistia stratiotes* in medium with increased phosphate and nitrate contents

| | Glass Jars | | 1st day | 6th day | 13th day | 20th day | 29th day |
|--|------------|---|-----------------------------|------------------------------|-----------------------------|-----------------------------|--|
| Knop's solution with soil Calcium nitrate .. 0.8 gm. Potassium nitrate .. 0.2 gm. Potassium dihydrogen phosphate .. 0.2 gm. Magnesium phosphate 0.2 gm. Ferric phosphate .. trace Water .. 1,000 cc. | 1 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 6.8 60.0 2.75 75 | 6.9 60.0 8.0 85 | 7.0 55.0 19.98 110 | 6.8 40.0 9.96 115 | All the <i>Pistia</i> plants in all the three jars are completely dead and the decaying parts at the bottom of the jars lying as substratum. |
| | 2 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 6.8 66.0 1.5 100 | 6.9 66.0 4.0 100 | 7.4 45.0 16.23 110 | 6.4 40.0 14.96 100 | |
| | 3 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 6.9 60.0 1.5 75 | 7.1 60.0 6.0 75 | 7.3 30.0 16.23 85 | 6.8 30.0 19.96 80 | |
| Tap water without soil Tap water: pH .. 7.8 Total alkalinity (CaCO ₃) .. 74.0 p.p.m. Phosphate (P ₂ O ₅) 0.08 p.p.m. Nitrate (NO ₃) .. 0.6 p.p.m. | 4 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 7.3 72.0 1.4 1.0 | 7.2 84.0 0.1 2.25 | 7.6 90.0 1.48 1.6 | 7.5 90.0 1.71 2.0 | The plants are not very healthy. Leaves smaller in size are present and roots though getting detached yet new ones are also developing. |
| | 5 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 7.3 72.0 0.6 0.75 | 7.5 84.0 trace 0.25 | 8.0 85.0 1.08 1.1 | 7.6 90.0 1.96 0.35 | |
| | 6 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 7.5 66.0 0.3 trace | 7.5 72.0 1.5 0.5 | 8.1 75.0 2.75 0.75 | 7.4 60.0 2.96 1.25 | |
| Tap water with soil | 7 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 7.0 96.0 1.4 0.3 | 7.6 96.0 0.1 0.6 | 8.1 90.0 1.98 0.25 | 7.2 70.0 1.06 0.55 | Plants very healthy. |
| | 8 | pH CaCO ₃ P ₂ O ₅ NO ₃ | 6.9 72 1.5 0.6 | 7.1 120 1.1 0.1 | 7.2 185 2.95 0.6 | 7.6 220 0.35 0.76 | |

Results expressed in p.p.m.

TABLE VI
Substratum experiment

| Date | Tub numbers | Substratum | pH | Dissolved oxygen | Phosphate p.p.m. | Nitrate p.p.m. | Total alkalinity p.p.m. | Plant weight |
|---------|-------------|--------------|-----|------------------|------------------|----------------|-------------------------|---|
| 12-1-59 | 1 | Nil | 7.2 | 4.4 | 0.4 | 0.04 | 128 | 200 gms. of healthy <i>Pistia</i> plants in each. |
| | 2 | Soil .. 75% | 7.6 | 12.4 | 0.25 | 0.1 | 90 | |
| | 3 | Sand .. 25% | 7.2 | 8.4 | 0.45 | traces | 68 | |
| | 4 | Soil .. 75% | 7.6 | 8.6 | 0.2 | 0.06 | 66 | |
| | 5 | Sand .. 100% | 7.2 | 7.2 | 1.6 | 0.06 | 80 | |
| 19-1-59 | 1 | | 7.2 | 1.6 | 0.8 | 0.15 | 152 | Plants healthy. |
| | 2 | | 7.2 | 7.6 | traces | 0.06 | 20 | .. .. |
| | 3 | | 7.0 | 6.8 | 0.04 | 0.06 | 54 | .. .. |
| | 4 | | 6.8 | 8.0 | traces | 0.1 | 44 | .. .. |
| | 5 | | 6.9 | 9.2 | 0.12 | 0.1 | 56 | .. .. |
| 26-1-59 | 1 | | 7.2 | 2.0 | 2.0 | 2.5 | 232 | Roots are getting detached. |
| | 2 | | 7.4 | 9.0 | 0.08 | 0.5 | 60 | Plants healthy. |
| | 3 | | 6.8 | 8.4 | 0.08 | 0.6 | 50 | .. .. |
| | 4 | | 6.8 | 8.8 | traces | 0.4 | 38 | .. .. |
| | 5 | | 6.8 | 8.0 | 0.2 | 0.5 | 44 | .. .. |
| 3-2-59 | 1 | | 7.0 | traces | 3.0 | 2.0 | 214 | Roots gone more, leaves also decaying. |
| | 2 | | 7.9 | 8.8 | 0.3 | 0.5 | 60 | Plants healthy. |
| | 3 | | 6.4 | 6.0 | 0.32 | 0.68 | 40 | .. .. |
| | 4 | | 6.4 | 6.4 | 0.28 | 0.5 | 32 | .. .. |
| | 5 | | 6.4 | 7.2 | 0.56 | 0.56 | 26 | .. .. |
| 21-4-59 | 1 | Nil | 7.3 | traces | 4.0 | 0.2 | 166 | Plants dead and completely decomposed. |
| | 2 | Soil .. 75% | 7.4 | 5.6 | 0.16 | 0.25 | 124 | Plants healthy—280 gms. |
| | 3 | Sand .. 25% | 6.9 | 4.4 | 0.2 | 0.375 | 36 | —570 gms. |
| | 4 | Soil .. 75% | 6.8 | traces | 0.06 | 0.5 | 88 | —1,025 gms. |
| | 5 | Sand .. 100% | 7.0 | 5.2 | 2.0 | 0.8 | 86 | —290 gms. |

Five earthenware tubs were taken with substratum varying in the following manner:

| | | |
|-------|----|---|
| Tub 1 | .. | substratum nil |
| Tub 2 | .. | pond mud 75 per cent + sand 25 per cent |
| Tub 3 | .. | pond mud 25 per cent + sand 75 per cent |
| Tub 4 | .. | sand 100 per cent |
| Tub 5 | .. | pond mud 100 per cent |

Each tub was filled with tap water. Tap water was allowed to settle down and become clear when 200 gms. of healthy *Pistia* plants were liberated in each tub. The observation was continued for three months and nine days. Table VI gives the detail of the water analysis.

After three months it was observed that the tub in which there was no substratum the plants were completely dead and decayed. In tub No. 4, in which the substratum was 100 per cent sand, the plants had shown a maximum increase in weight, that is 1,025 gms. The next increase in weight, that is 570 gms., was in tub No. 3 in which the substratum was a mixture of sand 75 per cent and pond mud 25 per cent. Tub No. 5 in which soil was 100 per cent and also in tub No. 2 in which soil was 75 per cent and sand 25 per cent increase in weight was not so much as in tub Nos. 3 and 4. By comparing the weight of plants and the health of plants in each tub it can be stated that the growth was best in the tub in which the substratum was sand 100 per cent and second best in which sand was 75 per cent. From the chemical analysis of water it is found that the variation is not much in comparison to the natural waters, that is ponds in which the *Pistia* plants were growing very healthily. The tub in which the substratum was absent the plants could not survive at all but the chemical aspect of the water in that tub was almost similar to other tubs.

DISCUSSION

From various literature it is observed that the morphological aspects of *Pistia stratiotes* Linn. have been worked out to some extent but not in much detail. Arber (1920) states that *Pistia* represents a type which is singularly successful in the matter of vegetative growth which has also been observed by the author.

While studying the foliage leaves it is observed that stomata are very commonly present on the lower surface of each leaf. Griffith (1851) mentions the absence of stomata on the leaves of *Pistia*. Arber (1920) mentions about the water pore only. Esau (1954) states that stomata occur on some submerged aquatic plants and not in others. Coulter and Cowles (1931) state that in floating foliage organs the submerged undersurface is without stomata while they are abundant on the emersed upper surface.

From the study of the internal structure it is observed that vessels are present only in the floating tuber and not in the other parts of the plant body. The vascular bundles in floating tuber have a few annular vessels and in the other parts of the plant body they are composed of closely set, small, undifferentiated cells. In *Pistia* the roots, tubers, runners and ventral surfaces of some of the foliage leaves are always in contact with water through which absorption goes on freely and so there is no need of conductive tissue.

All the vegetative parts show the presence of large and small airchambers in good numbers. To give mechanical support as well

as protection from animals to the delicate tissues the calcium oxalate crystals, like the raphides and the druses, are found within the airspaces.

It is already a known fact that none of the ponds should be having over-abundance of aquatic vegetation from the health point of view. But especially the piscicultural tanks should remain clear of unwanted vegetation for a good crop of fish. *Pistia* is a very common weed and, if a water area is once infected with this plant, it shows rapid vegetative multiplication, choking up the water enclosure within a short period. With a view to find out means for keeping a check on the growth and multiplication of the plants, natural conditions under which the plant grows and multiplies healthily have been studied. It was observed that the plant tolerated healthily the water conditions having pH varying from 7.9 to 8.8, nitrate from 0.03 to 0.28 mg./litre, phosphate from 0.16 to 4.0 mg./litres, total alkalinity from 30 to 592 mg./litres and the soil having pH 6.4 to 7.4, available nitrogen 21.8 to 54.8 mg./100 gms., available phosphorus 20.0 to 60.8 mg./100 gms. Some laboratory experiments were carried out varying some specific conditions of the water and it was observed that *Pistia* plants could tolerate healthily alkaline water up to pH 12.0. When the pH of water was made acidic by the addition of a definite quantity of concentrated sulphuric acid, it was observed that it was not directly responsible for the death and decay of *Pistia* plants but it changed the balance of nitrate and phosphate content of the medium and ultimately led to the destruction of the floating vegetation *Pistia stratiotes*.

While discussing the relationships of organisms and environment in aquatic communities Reid (1961) writes that the free floating hydrophytes and rooted plants with floating leaves influence energy relationships and community composition in various ways. Both groups may contribute to a surface massing of such extent as to shield the underlying water from sunlight, thereby inhibiting organic production. In warm regions the water underneath such mats has frequently been found to be nearly oxygenless. The roots of free floating plants extract dissolved nutrients from the water and, together with the under surfaces of floating leaves, often harbour rich communities of organisms and serve as the substrate for egg deposition of a number of animals. So from the above facts it can be stated that a fish pond should always be kept free of over-abundant aquatic vegetation whether free floating or rooted.

While studying the germination of seeds it is observed that the growth of foliage leaves is terminal and roots show lateral formation.

From the laboratory experiments it is also observed that the presence of substratum is essential for the survival of *Pistia* plants and also it prefers a sandy substratum for its healthy growth and multiplication.

SUMMARY

Some aspects of the habit, external and internal morphology of *Pistia stratiotes* Linn. have been studied in detail. It has been observed that it is a very delicate, free floating plant with a good amount of airspaces and can also survive for a considerable period even if a part of the vegetative body is missing. An account of reproduction, both vegetative as well as sexual, with the germination of seed in the plant is given. It shows great success in vegetative multiplication.

Some aspects of the physico-chemical conditions of existence in nature have been studied. Basing on these data collected from natural environment, under laboratory conditions changing one of the aspects of the natural environment, the conditions of plant growth have been studied. It is

observed that the concentrated sulphuric acid that was used for making the medium acidic was not directly responsible for the death and decay of the *Pistia* plants but it changed the balance of nitrate and phosphate content of the medium and ultimately led to the destruction of the vegetation.

ACKNOWLEDGEMENT

The author is grateful to Sri S. M. Banerjea, Research Officer (Chemistry), Central Inland Fisheries Research Sub-Station, Cuttack, for his guidance while carrying out the physico-chemical aspects of the study and also for allowing her to incorporate the unpublished chemical data.

REFERENCES

- Arber, A. (1920). Water Plants. Cambridge University Press, London, pp. 74, 82, 154.
- Biswas, K. (1954). Handbook of Common Water and Marsh Plants of India and Burma. Delhi, pp. 92-94.
- Campbell, D. H. (1900). Studies on the Araceae I. *Ann. Bot.*, Vol. 14.
- Campbell, D. H. (1903). Studies on the Araceae II. *Ann. Bot.*, Vol. 17.
- Campbell, D. H. (1905). Studies on the Araceae III. *Ann. Bot.*, Vol. 19.
- Coulter, J. M., and Cowles, H. C. (1931). A Textbook of Botany. Vol. III. Ecology. American Book Co., New York, pp. 499.
- Eames, A. J., and MacDaniels, L. H. (1925). An Introduction to Plant Anatomy. McGraw-Hill Book Co., New York and London, pp. 364.
- Engler, A., and Prantl, K. (1889). Die Natürlichen Pflanzenfamilien. Teil II. p. 102, Leipzig.
- Esau, K. (1954). Plant Anatomy. Chapman & Hall, London, pp. 146, 153-421.
- Griffith, W. (1851). Notulae ad Plantas Asiaticas. Vol. I, Part III, p. 124, Calcutta.
- Haines, H. H. (1922). The Botany of Bihar and Orissa. Part IV, p. 856.
- Hooker, J. D. (1894). Flora of British India. Vol. VI, pp. 399-400.
- Hutchinson, J. (1926, revised edition 1959). The Families of Flowering Plants. Vol. II. Monocotyledon. Oxford at the Clarendon Press, pp. 627-635.
- Hutchinson, I., and Dalziel, J. M. (1931-1936). Flora of West Tropical Africa. Vol. II.
- Lawrence, G. H. M. (1951). Taxonomy of Vascular Plants. New York, p. 399.
- Maheswari, S. (1954). The embryology of *Wolffia*. *Phytomorphology*, 4, 355-365.
- Prain, D. (1903). Bengal Plants. Vol. II, p. 1105.
- Reid, G. K. (1961). Ecology of Inland Waters and Estuaries. Reinold Publishing Corporation, New York, Chapman & Hall Ltd., London, p. 375.
- Roxburgh, W. (1832). Flora India or Description of Indian Plants. Vol. II, pp. 130-131.

THE AUTHORSHIP OF *SŪRJANACARITAM*

By R. C. MAJUMDAR

(Received June 13, 1967)

There is a manuscript of an epic poem called *Sūrjanacaritam* in the collection of the Asiatic Society, Calcutta. It was first brought to the notice of the public by Dr. Rajendra Lal Mitra¹ and a short account of it has been given by MM. Haraprasād Śāstrī.² A more detailed account of its contents was given by Dr. H. C. Ray.³ This *Mahākāvya*, as it is called, is divided into 20 cantos and contains 2,200 *ślokas*. The first 12 cantos give an account of the famous Cāhamāna kings of Śākambharī, including such great historical figures as Ajayapāla, Prthvīrāja and Hammīradeva. The next canto mentions the names of 16 kings of a branch family, ending with Sūrajana. The rest of this canto (XIII) as well as the next six cantos describe the career of Sūrajana or Sūrjana, the hero of the poem whose name it bears up to his death. The last canto (XX) is devoted to his son, Bhoja.

An historical poem of this kind is very rare in Sanskrit literature and certainly deserves a more careful study than it has yet received. But it has got a further interest from the fact that MM. Haraprasād Śāstrī has unhesitatingly described its author as a Bengali of the Vaidya caste, and this view has been adopted, without any question, by Dr. Hem Chandra Ray. It is the object of this paper to discuss how far this view is tenable.

In the last verse of the poem the author describes himself as Candrasekhara of the Gaudīya Ambaṣṭha family, and tells us that he composed this poem at the request of Sūrjana and in the city of Banaras. On this basis alone Śāstrī commences his account of the manuscript with the words: 'By Candrasekhara of Bengal, an Ambaṣṭha or Vaidya by caste.' Dr. H. C. Ray not only accepted this view, without any question, but sought to identify the author with Vaidya Candrasekhara, mentioned in the *Caitanya-caritāmṛta* of Kṛṣṇadāsa Kavirāja.⁴

Unfortunately, none of these two eminent scholars has discussed the question in detail, and tried to meet the serious objections that may be urged against this view. In the first place, the well-known fact that Gauda in the Medieval Age designated nearly the whole of Northern India (cf. *Pañca Gauda*) and Gauda Brāhmaṇas, Gauda Kāyasthas and Gauda Rājputs, unknown in Bengal, lived in various parts of Upper India should make us hesitate to accept Gaudīya Ambaṣṭha as belonging to Bengal, particularly as there is no Ambaṣṭha caste in Bengal today. It is likely that there were Ambaṣṭha castes in Bengal in the sixteenth century, for the *Brahma-vaivarta Purāṇa* and the *Bṛhaddharma Purāṇa*, which probably reflect the social conditions of Bengal in the fourteenth-fifteenth century or a little later, include Ambaṣṭha in the list of castes. But while the

¹ *Notices of Sanskrit Manuscripts*, Vol. I, 1871, No. LXXVI, pp. 42-43.

² *A Descriptive Catalogue of Sanskrit Manuscripts in the Government Collection under the care of the Asiatic Society of Bengal*, by Haraprasad Śāstrī, Vol. IV, 'History and Geography', p. 8, No. 3084.

³ *I.H.Q.*, XIV, pp. 570 ff.

⁴ Dr. Ray has quoted a passage from this book (*Ādikālā*, Ch. X, vv. 150-52). There are other passages also in this book which refer to Candrasekhara (*Madhyakālā*, Ch. 17, vv. 87-92; Ch. 19, v. 202; and Ch. 25).

latter regards the Vaidyas as identical with the Ambaṣṭhas, the former mentions them as two separate castes.¹ There are two well-known genealogical histories of the Vaidyas in Bengal. One of these, the *Candra-prabhā*, composed in A.D. 1675, regards the Vaidyas as Ambaṣṭhas, but the other, the *Sadvaidya-kula-pañjikā*, composed in A.D. 1653, does not mention any such thing. Besides, the Kāyasthas of Bihar and the barbers of distant Tamil countries regard themselves as Ambaṣṭhas, and there are Ambaṣṭha castes in other places, too. In view of all these, anyone calling himself Ambaṣṭha cannot be regarded as Vaidya without any further evidence. Thus the author of the *Sūrjanacaritam*, who calls himself a Gauḍīya and an Ambaṣṭha, need not be taken necessarily to be a Bengali or a Vaidya.

We may now take up the question of the identification of the author, Candrasekhara, with the devotee of Caitanya, Vaidya Candrasekhara, mentioned in the *Caitanya-caritāmṛta*. It is somewhat curious that Dr. H. C. Ray, who started this hypothesis, did not consider the question from the chronological point of view. The *Sūrjanacaritam* mentions the conquest of Ranthambhor by the Mughal Emperor Akbar from Sūrjan who received some territories in exchange and settled in Banaras. It adds that Sūrjan's son and successor, Bhoja, conquered Gurjara-rāja-bhūmi and defeated the Suhmas, Vaṅgas, Vaidarbhas, Traigartas, Mālavas and the Gāndhāras, and that he was *Dillī-sena-puraṣkṛta*. This fully tallies with the two following well-known facts in Mughal history:

- (1) In 1569 Akbar besieged Ranthambhor and though the Rajput Hādā chief, Sūrjan Rao, resisted the invasion at first, he soon concluded a treaty accepting the suzerainty of the Mughal Emperor Akbar. He gave up Ranthambhor and became the servant of the emperor with high honours and office—the government of 52 districts. He was granted a residence in Banaras and appointed Governor of the Province with the rank of the commander of 2,000 as a reward for his military services in Gondwana.
- (2) Two of the sons of Sūrjan Rao gave valiant support to Akbar in the expedition to Gujarāt as well as in the Deccan war towards the close of his reign.²

There can be hardly any doubt that the military conquests of Sūrjan's son, Bhoja, mentioned in the *Sūrjanacaritam* and quoted above, refer to his fights in Gujarat, Berar (Vaidarbha) and other places as an officer in the Mughal army, as is clearly indicated by the phrase *Dillī-sena-puraṣkṛta*.

Fortunately we know the dates of these Mughal campaigns. Sūrjan surrendered Ranthambhor, and accepted Mughal suzerainty, in A.D. 1569, and the Gujarāt and Berar (Vaidarbha) expeditions in which his son participated took place, respectively, in A.D. 1572 and 1596. As all these facts are mentioned in the *Sūrjanacaritam* it could not have been composed long before A.D. 1600.

Without going into these details Dr. H. C. Ray justifies his identification of the author of the *Sūrjanacaritam* with Vaidya Candrasekhara on chronological grounds and simply observes as follows: 'This Candrasekhara was a Bengali Vaidya resident in Benares. As Caitanya was born about A.D. 1498 and entered into the *Sannyāsa āśrama* about the end of the first quarter of the sixteenth century, his disciple Candrasekhara was

¹ *History of Bengal*, Edited by R. C. Majumdar, Vol. I, pp. 585-91.

² V. A. Smith, *Akbar, the Great Mogul*, pp. 98-100.

certainly a contemporary of the emperor Akbar and the Cāhamāna prince, Sūrjana. It is thus probable that our author is identical with this disciple of Caitanya. But as yet I am unable to produce any evidence that the *bhakta* was also a poet and an author . . . '1

As Akbar had a long reign from A.D. 1556 to 1605, Candrasekhara might have been a contemporary of Akbar during the early part of his reign,² but the question is whether he lived up to the end of the sixteenth century A.D. when, as we have seen above, was composed the epic *Sūrjanacaritam*. Fortunately the Vaiṣṇava literature enables us to give a decisive reply on this point.

Dr. Ray's two dates about Caitanya in the passage quoted above are hopelessly wrong. Caitanya was born in February, 1486, not 'about 1498', and he took *Sannyāsa* in 1510, and not 'about A.D. 1525', as stated by Dr. Ray. Further we know that Caitanya met Candrasekhara at Banaras on his way to and back from Vrindāvana in A.D. 1514-15. It is also quite clear that Candrasekhara was at least a grown-up young man at the time, because he told Caitanya that he was tired of the 'Māyā Brahma' and the six schools of philosophy, and pined for the Bhakti cult preached by Caitanya. Even if we assume that he was a young man of 25 when he welcomed Caitanya to his home at Banaras—an underestimate rather than an overestimate—he must have been born about 1490 (1515 minus 25). He must have, therefore, been more than a hundred years old when the *Sūrjanacaritam* was composed—about A.D. 1600, as mentioned above. It is, therefore, difficult to accept the Vaidya Candrasekhara of the Vaiṣṇava literature as the author of the *Sūrjanacaritam* without far more definite evidence than we yet possess. It should be remembered that though there are several references to Vaidya Candrasekhara in the *Caitanya-caritāmṛta* and other Vaiṣṇava books, he is nowhere called a poet—an epithet which the author of an epic poem of more than two thousand verses richly deserves. He is called a *lekhaṇa* (writer) and *likhāṇa* (writing) is said to be his *vṛtti* (means of livelihood), which probably means that he was a copyist of manuscripts. But this certainly would not be the proper description of a renowned poet. All these considerations make it quite clear that in the absence of more positive evidence it would be quite wrong to claim that the author of the *Sūrjanacaritam* was a Bengali belonging to the Vaidya caste, far less that he is to be identified with the Vaiṣṇava devotee Candrasekhara.

¹ *I.H.Q.*, XIV, 579-80.

² Dr. Biman Bihari Majumdar, an eminent scholar in Vaishnava literature, has expressed the view, in a letter dated 20-3-65, that considering the Vaishnava tradition that Candrasekhara lived to a very old age and Jahnavidevi, wife of Nityānanda, was his guest he might have lived up to the beginning of Akbar's reign.

THE OLD TEMPLE AT LAMBA
AND
KĀMEŚVARA TEMPLE AT AUWA

By M. A. DHAKY

(Received March 13, 1967)

Marumaṇḍala is a land of contradictions. In its arid, uninviting landscape grew some of the fairest flowers of Indian temple architecture. In its desolation was nursed a love for the ornate that was and is revealed as much by her people as through its splendid monuments. Not only that; its people were a potential partner in the construction of the rich, impressive façade of the unified cultural edifice, the Western India. Its architectural style with its organized corpus and distinct, settled idiom emerged as a parent to the pedigree of the medieval monumental architecture of the western sector of the sub-continent. Gujarat is as much indebted to Marubhūmi as Rajasthan itself for her culture of the Middle Ages.

Marumaṇḍala, during the latter half of the eighth century, formed the heartland of the Gurjara-Pratīhāras of the collateral branch which, seemingly, was feudatory of the great Imperial line. The earlier Ābhira art of the Maru-land, represented chiefly by the terracottas of the Kuṣāṇa Period in Bikaner area, is strongly permeated by influences radiating from Gandhāra as well as Sūrasena. A little later, the *torāṇa* posts at Mandor suggest the continuity of the same tradition but leaning now more towards Mathurā. In the fourth century Gandhāra became an epicentre of a second powerful wave transmitted with many art motifs to the Gangetic Valley, Sind, North Gujarat, lower Mewar (Mevād) and of course to the nearby Maru-deśa.¹ What followed next in Maru-land is not very clear except for the darkness lit up here and there by such rare references as to the existence of the temple of Devī Dadhimatī in 608 at Goth-Manglod in Nagaur District and the rock-cut *vāpī* (step-well) and sculptures carved on the hill-face in 685 at Mandor.² But the region came into sharp focus in the last quarter of the eighth century under the aegis of the Pratīhāra Emperor Vatsarāja. The entire Marumaṇḍala now reverberated to the sound of the chisels of the sculptors. Mandor (Maḍḍodara) and Medta (Medāntaka), Osia (Ukeśa) and Abaneri (Ābhānagarī), Buchkala (Rājyaghaṅgakam) and Ghantiyala (Rohimsaka), Pipal (Pillalāda) and Dinuduana (Dendvanaka), Khijarpur and Nagaur (Nāgapura), and finally Lamba and Auwa were relatively earlier centres of the homogeneous Mahā-Māru style of architecture. The feudatory Pratīhāra princes of Mandor and the early Cāhamāna chieftains (or some citizens from among the populace) could be the authors of some of these temples: some at least were within their territory and the Imperial Pratīhāras may not have had a direct hand in their erection; but the

¹ Each region assimilated and transformed the new motifs in its own characteristic way.

² For information on the early temples in Rajasthan, see Agrawal, R. C., *Rajasthan ke Prācīna Devabhavana* (Hindi).

style, to be sure, was startlingly uniform, differing from place to place only in matter of richness and presence or otherwise of a few features, patterns and motifs.

The analysis of the Mahā-Māru style unravels problems of more than ordinary significance. Despite the presence of a few local traits which refer back to earlier Ābhīra art, and a few elements which could have come through an exodus from Sind after the immobilization of the Buddhist and Brahmanical architectural activities under the Arabs, the style as a whole seems a descendent, unlike the subjacent Mahā-Gurjara style, of the Śūrasena and Central Indian art of the Gupta period.¹ It is not possible at this stage to pinpoint the exact centre or centres of effulgence of this movement to Marumandala, or to visualize the political circumstances under which such a drive became necessary either. One might fancy Vatsarāja's occupation of Mālava and Kānyakubja and subsequent retreat to Marwar (Mārvād) may have created such circumstances that could facilitate the conduction of the style which we have elected since to call Mahā-Māru. But that is not all. The generic kinship of the temples in this style to (as far in time and place) the early temples in Kalinga and the Nāgara Temples in Kuntala-Karnāṭa area are as well marked out. The Mahā-Māru style is thus a regional variation of the extensive Mahā-Nāgara style of Northern India. At this early stage its relationship with the Mahā-Gurjara style that prevailed in Abu, Mewar and Gujarat is rather of a contemporary but unconcerned neighbour sharing certain characters common to the age. The basic architectonics of Mahā-Māru temple conjure up an image as though it is monolithic. Beauty of masonry is never innate in its structural expressions. It relies for effect on its rich applied decoration, much of which reminds of brick-and-stucco technique. The art of a silversmith and a woodcarver is also apparent in the upper part of the shafts and brackets of certain orders of pillars. The *nāgās* and *mālādharas*, *gandharvas* and *vidyādharas*, undulating creepers, the *ghaṭapallava* and fluted pillars are all derived from the great northern complex of Gupta art.

The temples at Osia, and now Abaneri, are better known. The less familiar but none the less significant are the Old Temple at Lamba and the Śiva Temple at Auwa. On certain aspects they afford information that amplify and enrich our knowledge of the splendid Mahā-Māru style of architecture. They help envisage the vast fund of its imaginative decorations and point conclusively to the original sources of extraction.

1. The Old Temple at Lamba

On the trunk road between Jetaran and Jodhpur and next to Bilada is situated the village Bhavi. Lamba is located about 8 kilometres to the west-south-west of Bhavi. It is accessible by a cart road. On the southern outskirts of the village and not far from it is situated the Old Temple.

The temple is built of pink-red sandstone as at Osia, Mandor, Auwa and other Mahā-Māru sites, but with a shade richer and more pleasing tone. On plan it comprises a rectangular Jagatī (terrace) supporting the Mūlaprāsāda (Sanctum Proper) with an open *bhramanī* (ambulatory) and a

¹ See Jaykar, Pupul, 'Marg', Vol. XII, March 1959, No. 2, pp. 56-57. The learned scholar is perfectly justified in proposing connections between the Gupta art of Deogarh, Bhumara, etc., with the art and architecture at Osia. For the detailed exposition of this theory, see Krishna Deva, *Extensions of Gupta Art: Art and Architecture of the Pratihāra Age*, 'Seminar on Indian Art History, 1962, Lalit Kala Akademi' (Convener and Editor, Dr. Motichandra).

square Raṅgamaṇḍapa (dancing hall) with a Mukhacatuṣkī (entrance porch) to the west. The temple is westerly oriented.¹

The substantially built high Jagatī (Fig. 2) is of the kind similar to those at Osia and Mandor. Its bold and heavy *vedībāṇḍha* (podium) above a *bhitti* (plinth) is, as in some cases at Osia, of the type where the *kalāśa* (torus major) is omitted. Its wide *antarapātra* (fillet) shows the *tālapātra* (palmette) pattern. Above the *kapotapālīkā* (eave-cornice) of the *vedībāṇḍha* comes the *Vasantapattīkā* bearing a degenerate acanthus scroll. Both the palmette and the acanthus pattern are known, in fact are fairly frequent, at Osia. Palmette is known at Sarnath as well as at Muṇḍeśvarī Temple (c. seventh century) in Bihar. A plain *pattīkā* tops the latter band.

As is common with the temples in Mahā-Māru style, the Mūlaprāsāda (Fig. 1), some 4.14 metres wide, is *tri anga* and thus possesses three projections, *bhadra* (central offset), *pratiratha* (juxta-buttress) and *karna* (corner). In its elevational mouldings the Shrine Proper shows a *bhitti* with a short *kumuda* (torus minor) followed by a heavy *vedībāṇḍha* of the *kaṭi* (wall) formed by a *khuraka* (hoof) and *kumbha* (pitcher) splayed out at the base, followed by a *kalāśa* and a negligible *antarapātra* topped by a *kapotapālī* decorated with *candraśālikās* (*caitya* arches) and peacock figures in between the latter on *bhadra* parts.² The *bhadra-kumbha* (pitcher) is decorated with a *rathīkā* (panel) enshrining Varāha on the north, dancing Gaṇeśa on the west and Garuḍavāhana Viṣṇu on the south. The *jaṅghā* (frieze) above the *vedībāṇḍha* is fully carved with divine images sheltered in framed niches, each capped by an elongate *udgama* (pediment), as with Osian temples. Owing to the collapse of the stone facing, except one, all the niches on the east face have vanished, while two have likewise gone on the south side. On the north face are seen (in clockwise order) Gajalakṣmī (on front *karna*), standing Viṣṇu (on *pratiratha*), Nṛsiṃha (on *bhadra*), a Siddha (ascetic) and Dikpālī Vāyu (on *karna*). On the east, the only surviving image is that of Sūrya on the right-hand *karna*. On the south face, the *karna* as well as the *pratiratha* has disappeared. On the *bhadra*, Revanta comes to view.³ He is followed by a Ṛṣi, and Brahmā on *pratiratha*. The sequence of images on the *jaṅghā* poses some serious problems concerning the iconic disposition of *parivāra devatās*. The placement of Gajalakṣmī in lieu of Vāyu, Vāyu in place of Kubera, Sūrya where Īśa ought to have been and Brahmā instead of Nirṛtī are all glaring discrepancies difficult to explain either on the strength of any known text on iconography or architecture, or by any parallel from the contemporaneous Osia.⁴ Above the *jaṅghā* comes a short, indifferently rendered, band with buds-and-string in low relief. This is topped by the first *varaṇḍīkā* (cornice major) which is similar in appearance and ornamentation to the *kapotapālīkā* in the *vedībāṇḍha*. Next follows the *kaṇṭha* (neck) wherein are depicted

¹ For the full view of the temple, see Soundara Rajan, K. V., 'Lalit Kala', No. 8.

² Peacock figures on the *kapotapālī* are known at Harihara Temple No. 2 at Osia and Brahmāṇasvāmī Temple at Varman.

³ Revantā is known on the southern face of the subsidiary shrine (S.E. corner) of the Sun Temple in Harihara Temple No. 1 complex at Osia. Here the back niche does not show a sun image. At Lamba it is lost. For Osia illustration, see Jaykar, Pupul, p. 55, Fig. 7.

⁴ The old Sun Temple on the Sachiyāmātā Hill is the only one which deviates in the matter of placement of gods. The orientation of Varuṇa as well as Vāyu, for example, is incorrect. Naṭeśa stands where Kubera ought to have been. On the place of Īśa is found Buddha, and Kubera takes the place of Indra; while Indra himself is totally absent.

some most interesting tableaux. The northern face preserves almost all of them: these are lost completely on the west; a fragment survives on the south. The worship of Maheśamūrti, *mallayuddha* scene, and three ascetics in panels in the northern *kanṭha* are all notable for their dramatic impact. The fragment on the southern *kanṭha* reveals a *liṅga pūjā* scene. Above the *kanṭha* follows the second *varaṇḍikā*, a little simpler in decoration.

Above the *varaṇḍikā* stands the latina (*ekāṇḍaka*) *śikhāra* of the temple. Except for its tallness, it is of the type seen at Osia. The use of *veṇukośa*¹ in lieu of *bālapanjara*² above the *pratiratha* is a feature likewise present here.³ But the *jāla* (lattice) on the *madhyā latā* (central spine) above the *bhadra* reveals the presence of two different and conflicting traditions which perhaps proved an inhibition to the correct engineering, formal stability and organic unity of the spire, which is why, perhaps, its facing stones are now giving way. In fact a large portion of the facing on the east and the south has already gone. The complete collapse of the *śikhāra* is imminent. The *śukānasa* (antefix on the fronton) is well preserved. It is formed by a large *śūrasenaka* flanked on either side by a *Nāgara-kūṭa* motif⁴ and a *rathikā* bearing a female figure.

The door-frame of the *garbhagrha* (cellar) is plain save for the *uttaraṅga* (architrave) which displays a *grāsa-pattikā* (band of *kīrttimukhas*) and above it a belt showing architectural decoration consisting of a *Nāgara-kūṭa* alternating with a niche-motif.⁵ On the shaft of the two engaged pillars flanking the doorway are seen respectively the figures of Gaṅgā and Yamunā.⁶

The rectangular Raṅgamaṇḍapa is 8.27 metres wide. Its walling starts directly at the top edge of the Jagatī as is the case with several older temples at Osia. Its elevation is made by a *rājasenaka* (fillet) with 'perforation blocks' and *vedikā* (balustrated dado) differing from the normal Mahā-Māru type in appearance as well as in some details. The carved floral patterns on its broad *phalakas* (vertical slabs) are all atavistic to Gupta antecedents. Above the *vedikā* comes a *kapotapālī* functioning here as a coping. This is followed by a plain *āsanapattāka* (seat). *Mattavāraṇa* (seat-back) members are totally lost though the *gajamuṇḍas* (elephant heads) are found here and there along the post-points. The interior of the hall possesses eight free-standing, square, *ghaṭapallava* pillars. The only one decorated ceiling is in the *mukhālinda*. It is of the *samatala* (flat) type showing a large lotus in the centre. But it is the lintels supported by these pillars that are of considerable significance from art and iconographic points of view. The inner faces of the lintels carry figural and vegetal decorations of surpassing interest. The three lintels within the *mukhālinda* near the *garbhagrha* are carved with vine patterns. The southern one (Fig. 3) is most exquisite; in form, rhythm and rendering it refers back to the earlier parallel of the Gupta Temple at Bhumara.⁷

¹ *Rekhā* with *bhūmi āmalakas* serving as internodes is the *veṇukośa*. This part is likened to a sheath of reeds.

² Half *latā* above the *pratiratha* or *pratikarna*.

³ The earlier and the only one instance of this kind is known in Saurashtra. It is the Sun Temple at Paṭhar.

⁴ On the *phāṃsanā* of the Mukhamaṇḍapa of Mahāvīra Temple at Osia such *Nāgara-kūṭas* come to view.

⁵ This feature is known above the *uttaraṅga* of the Gupta Temple (c. early sixth century) at Deogarh and Viśvakarmā Cave at Ellora; it is known, on a large scale, in the socle of the Old Temple (late sixth century) at Gop in Saurashtra.

⁶ The author's memory is not quite sharp on this point. These could be *sāla-bhañjikās* as is known in the majority of cases at Osia.

⁷ Cf. relevant plates, 'Memoir of the Archaeological Survey of India', No. 16.

and agrees with the contemporaneous ones in the *antarapatra* of the Jagatī of Harihara Temple No. 2 at Osia. In the next bay, on the east and south lintels are found seated gods; while Daśāvatāra are seen on the west, and Gaṇeśa with the Lokapālas Indra, Vāyu, Varuṇa, Yama and Kubera on the north lintel (Fig. 4). These beautiful figures inherit the verve and postures of the gods in those great niches on the Gupta Temple at Deogarh and the contemporary panels in Ajanta Cave XIX. On the *śālā* (nave) lintels are seen scenes from Puranic legends, that on the west face stages *liṅgodbhava mūrti*. The lintels in the following bay as well as in the Mukha-catuṣkī are plain. The eastern end of the hall is open to permit the worshippers to perambulate around the Mūlaprāsāda.¹ The roof above, as normal with early Mahā-Māru temples, is flat.

The problem of the dedication of the temple is quite puzzlesome owing to the absence of cult image and the disappearance of the back niche on the wall of the Shrine Proper. The *uttaraṅga* of the doorway does not carry the normal figure-bearing *rathikās* nor is the *lalāṭa bimba* (tutelary image) carved. Under the circumstances, the only guide is the carved images on the exterior of the Sanctum Proper and the lintels of the hall. The preponderation of the Vaiṣṇava images and the Daśāvatāra frieze is indicative of the shrine being a Vaiṣṇava one. The presence of Sūrya and Revanta need not worry us since they are known to be associated with the so-called Harihara temples (which are in reality Viṣṇu temples) at Osia. What is intriguing is the absence, unlike Osia, of Kṛṣṇa Līlā scenes in the *kanṭha*.² What is more, scenes of Shaivaite mythology in the *kanṭha* as well as on the lintel-faces are unknown in Vaiṣṇava shrines at Osia. The figures of ascetics are likewise foreign to Osian temples. The cosmopolitan nature of the pantheon may indicate the catholicity of outlook of the builders. The shrine could be a Vaiṣṇava one, but influenced by a Pāsupata sect, or even perhaps a Nātha sect.³ That is all, of course, speculative. To the archaeologists, art historians and art critics, what is important here are the friezes teeming with figural subjects which are rendered with an acumen and freshness of flourish rare in Mahā-Māru style. The age, as the architecture and the sculptural carving seem to suggest, is late eighth century and thus contemporary with the oldest temples at Osia.

2. Kāmeśvara Temple at Auwa

Auwa is accessible from Marwar Junction by a bus; it is some 15 kilometres from the latter place. The Old Temple is situated about half a kilometre north-west of the village, across the dry, shallow river-bed.

The red stone temple comprises a Mūlaprāsāda and a spacious Raṅga-maṇḍapa with a Mūkhacatuṣkī in front. The temple faces the west, as do the two Śiva Temples at Osia.

The Mūlaprāsāda (Fig. 5) is *tri aṅga* on plan and 6.35 metres wide: it is in fact one of the larger temples in Mahā-Māru style. In elevation it shows a *bhitti* with a short *kumuda* supporting the heavy *vedibandha* where the wide *antarapatra* is decorated with a palmette design. In point of fact this decoration is normally reserved for the *antarapatra* of a Jagatī

¹ This is a feature characteristic of almost all the Mahā-Māru temples with a Raṅgamandapa on a Jagatī. This is in contradistinction to Mahā-Gurjara temples.

² Kṛṣṇa Līlā scenes are known in the *kanṭha* of the three Harihara Temples and the smaller Viṣṇu Temple to the west of the latter group at Osia.

³ This is the suggestion of Dr. U. P. Shah.

in Mahā-Māru tradition. The ample *janghā* above the *vedibandha* is graced with the usual Mahā-Māru type of niches with an underlining of *kāmarūpa* (cyma reversa) decorated with lotus petals and a tall *udgama* above. The niches seem like the more refined enlarged versions of those on Harihara No. 2 at Osia. The eight Dikpālas are here found in their appropriate positions on the *karnas*. Curiously, the *pratirathas* have been left plain. The southern *bhadra* niche harbours Kubera with *gadā* (mace) and *pātra* (cup). Kubera here is *naravāhana* in conformity with the Mahā-Māru iconographic tradition.¹ The western *bhadra* niche enshrines Umā-Maheśvara, while the southern one reveals Gaṇeśa. Above the *jangha* comes the *padmapattikā* (lotus band), a feature familiar at Osia as well as Roda in Mahā-Gurjara province. The *antarapatra* of the double-corniced *varandikā* is carved with a chequer pattern with a clarity unknown at Osia.²

The superstructure of the Mūlaprāsāda is unusual. It comprises two superimposed series of *śṛṅgas* above each *karna*. Each one of these very shapely *śṛṅgas* is neatly carved with *jāla* pattern (Fig. 5). Above each *bhadra* is found a *rathikā* crowned by a series of four 'very delicately carved'³ receding *simhakarnas* (pediments). At the top, in lieu of a *mūla-mañjarī* on a *mallachādya*,⁴ what comes to view is a *dvi bhūma phāmsanā*⁵ crowned by a boldly fluted *ghanṭā* of the kind known at Osia on the roof of the hall of Harihara Temple No. 3. The entire conception of the superstructure at Auwa reminds of the Rānī Rājai's Temple at Puam Rā'-nogadh and Lākheśvara Temple at Kerakot, both in Kutch.⁶ This one is albeit the older of the three. The images in the *rathikās* of the superstructure are Kubera, (?) Lakulīśa and Gaṇeśa in the north, east and south respectively.

The impressive door-frame of the Sanctum is of the *pañcaśākhā* variety commencing from the inner *patraśākhā* carved with vegetal creeper followed by *bhūtaśākhā* showing frolicsome dwarfs. Next follows the central *rūpastambha*, *vyālaśākhā*, and finally *bāhyaśākhā* decorated with lotus petals. An additional, exterior, in fact adventitious, *rūpaśākhā*-bearing figure is also found as is known at Brāhmaṇasvāmī Temple (c. late ninth century) at Varman.⁷ The *uttaraṅga* of the doorway resembles that of Harihara No. 2 at Osia. It shows Gaṇeśa, Brahmā, Śiva, Viṣṇu and Devī in panels.

The Raṅgamaṇḍapa of the temple is square with a *bhadra* transept on the north and south. It is 11.8 metres across the transepts. On its elevation is found a *rājasenaka* with perforated diamond pattern as in Mahā-Gurjara instances. The *vedikā* above (Fig. 6) is carved with beautiful foliate scrolls and arabesques. Above this comes *āsanapattaka*. The *mattavāraṇa* members are almost lost except for a few elephant-heads of post-points. The *āsana-pattaka* supports, in all, eighteen dwarf pillars decorated with medallions,

¹ He is Gajavāhana in Mahā-Gurjara tradition.

² D. R. Bhandarkar refers to 'two varieties of chequer ornaments' in connection with this temple (see *Progress Report of the Archaeological Survey of India, Western Circle, 1908-09*, p. 49). It seems the learned authority took palmette in the *antara-patra* as chequer.

³ Sankalia, H. D., *The Archaeology of Gujarat*, p. 254.

⁴ The complex super-cornice on which the central spire is placed is the *mallachādya*.

⁵ Two-tiered pyramidal roof.

⁶ Bhandarkar did compare it with a Kerakot example (*ibid.*, p. 50). In fact this is a typical Mahā-Gurjara trait noticeable in the superstructure of the *prāgrīva* (porch) of Temple V at Roda. This temple is older at least by two generations than the Auwa Temple.

⁷ For details, see Dhaky, M. A., *Brāhmaṇasvāmī Temple at Varman*, *Journal of the Oriental Institute, Baroda*, Vol. XIV, March-June 1965, Nos. 3-4.

volutes, etc. (Fig. 7). In the interior, in the *śālā* (nave), stand four free-standing pillars of the Rucaka class whose upper part of shaft is decorated in the same fashion as the dwarf pillars of the low wall of the hall. Besides these *śālā* pillars, a pair of pilasters is found in the *mukhālinda* (ante-chamber) of the *garbhagrha* and of the same class of workmanship. The inner faces of the lintels of the transepts and the bay west of the *śālā* bear a continuous *rūpadhārā* (figural belt) comprising a series of figure-bearing large panels. These perhaps contain scenes from the *Rāmāyaṇa* and *purāṇas*. The conception of *rūpadhārā* on the top of the wall inside the hall is known in the Mahāvīra Temple at Osia. A variation of it is known at Temple III at Roda and Brāhmaṇasvāmī Temple at Varman; the convention was carried forward to tenth- and early eleventh-century temples in Western India.

The hall possesses seven important specimens of ceiling that help clarify the typological evolution of certain decorative features so far not found in any other temples in Western India. The ceiling just above the *mukhālinda* is of the *samatala* class divided into nine boxes¹ showing lotuses in round as well as orbicular form. In the northern transept is located an *asmatala* ceiling with a large lotus filling it entirely as is known from several temples at Osia. The *śālā* pillars support a large *kṣipta* ceiling of the Nābhicchanda (concentric) order constituted by courses of *gajātālus*, *kola*, once more *gajātālus* and, finally, a small archaic *padmāśilā* with *padmākeśara*.² The provision for *nāyikās* in the form of supporting brackets attached to the pillars is highly significant in that here one sees the beginnings of that well-known convention not known in that age anywhere else in Western India. The ceiling in the southern transept is of the *samatala* class, once more showing a large lotus flower. The ceiling in the bay west of the *śālā* is once again of the *samatala* class, but with a difference that the central large lotus is placed in an elegantly carved frame which also carries figural strips (Fig. 8).³ The ceiling in the Mukhacatuṣkī is of the *sama-kṣipta* class and Nābhicchanda order, on an oblong pattern (Fig. 9) such as is known in the portal of Hariścandra-nī-cori Temple at Shamalaji, Mālādevi Temple at Gyaraspur and Brāhmaṇasvāmī Temple at Varman.

The roof of the hall is flat, a feature common with almost all the early Mahā-Māru temples in Rajasthan. As one stands on this roof he notices an upper secret chamber within the superstructure of the Mūla-prāsāda. Ingress is obtained through the *śukanāsa*.

Bhandarkar correctly dates this temple to the ninth century. The advances noticeable in the door-frame, figure sculptures on the *jaṅghā* and the details of the ceilings (when compared with the early temples at Osia) so warrant. In fact it occupies a position half-way between the tenth-century temples and those of the days of Vatsarāja Pratihāra. The inscriptions engraved on the pillars of the hall date from 1076, 1112 and 1173. The oldest one, as reported by Bhandarkar, refers to the fane as Kāmyeśvara, the other two as Kāmeśvara, by which name it is known to this day.

¹ The three boxes on the left have disappeared.

² For the detailed explanation of the terms used in the context of ceilings, see Nanavati, J. M., and Dhaky, M. A., *The Ceilings in the Temples of Gujarat* (Bulletin of the Baroda Museum, Vols. XVI-XVII).

³ The ceiling is near in conception to the ceilings of that kind at Roda. The oldest example of a *samatala* ceiling with lotus flowers dates back at least to the Gupta period: the temple at Mukunddara in Eastern Rajasthan, for instance. In the Lamba example, the central gynaeceum circle of the lotus is replaced by a tiny but neatly carved figure of Nāṭeśa.

Auwa is located on a spot from where the border to Mahā-Māru 'style area' is not far. The over-all refinement in the chiselling of the temple may in part be due to the influences radiating from the latter art province. The Mahā-Gurjara land is noted, unlike Mahā-Māru, for its superb masonry work. The door-frame of the Auwa temple is also nearer more to the Mahā-Gurjara conception than to the Mahā-Māru. At the opposite end, counter-influences must have proceeded from Mahā-Māru to the Mahā-Gurjara art area, at least from the latter half of the ninth century. Auwa, by virtue of its location, was privileged to act as the focal centre of such a radiation. The sixth external *mithuna śākhā* in the door-frame of the Brāhmaṇasvāmī Temple at Varman (a typical Mahā-Gurjara temple of the Arbuda school of the late ninth century) and the *gajamuṇḍas* in the *mattavāraṇa* and peacock figures on the *kapotapālī* there, otherwise unknown in the Mahā-Gurjara area, can best be explained by presupposing an 'idea transmission' from the Mahā-Māru region. The Kāmeśvara Temple at Auwa is the premier landmark that presages, and is symptomatic of, the initial though unconscious efforts at the synthesis of the two great styles which, as the time passed and the events showed, emerged as a supreme, fulfilled Mārū-Gurjara style that prevailed from the start of the eleventh century over all Western India.



FIG. 1. Mūlaprāsāda, Old Temple, Lamba.

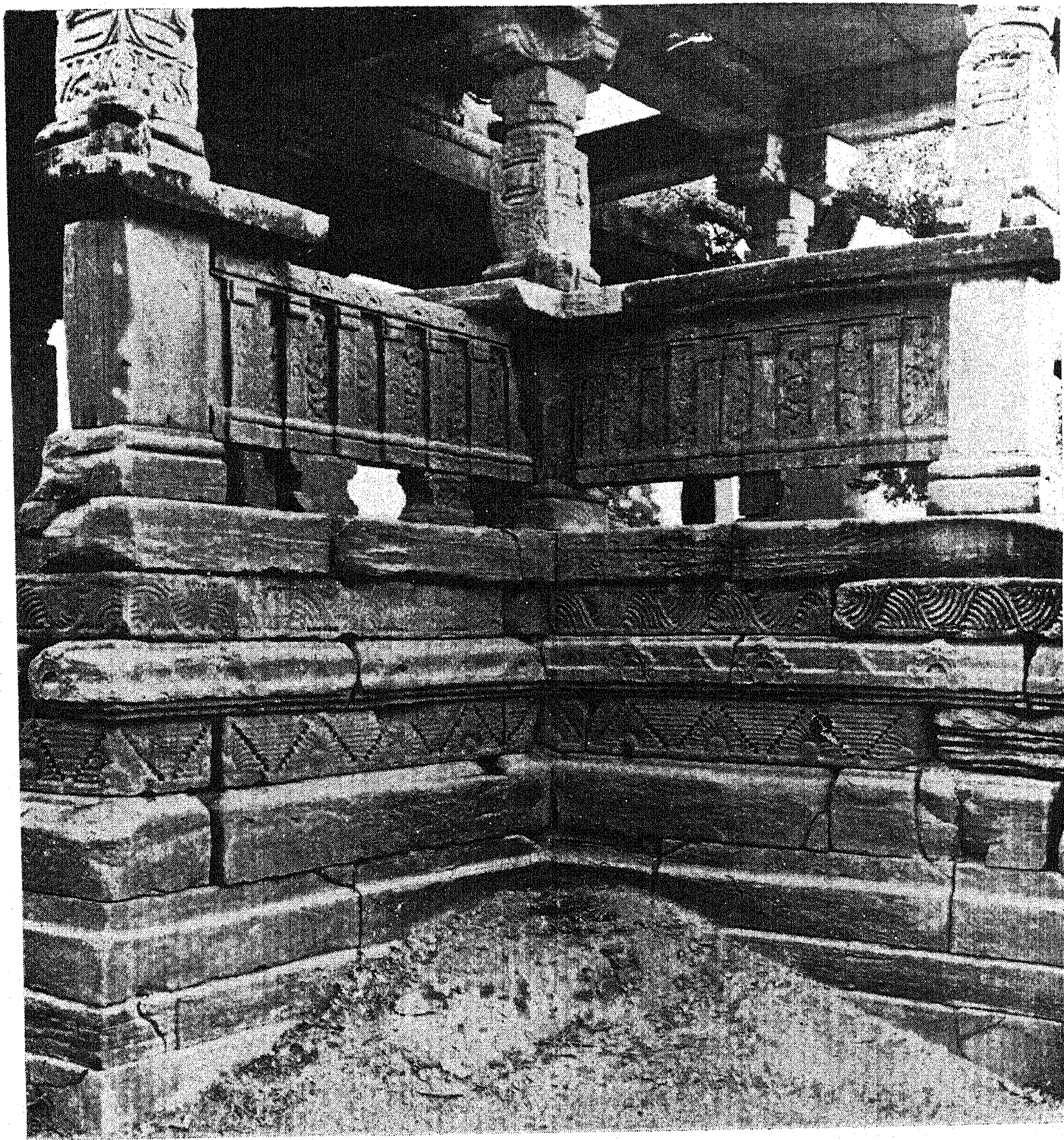


FIG. 2. Jagatī and Raṅgamaṇḍapa, Old Temple, Lamba.

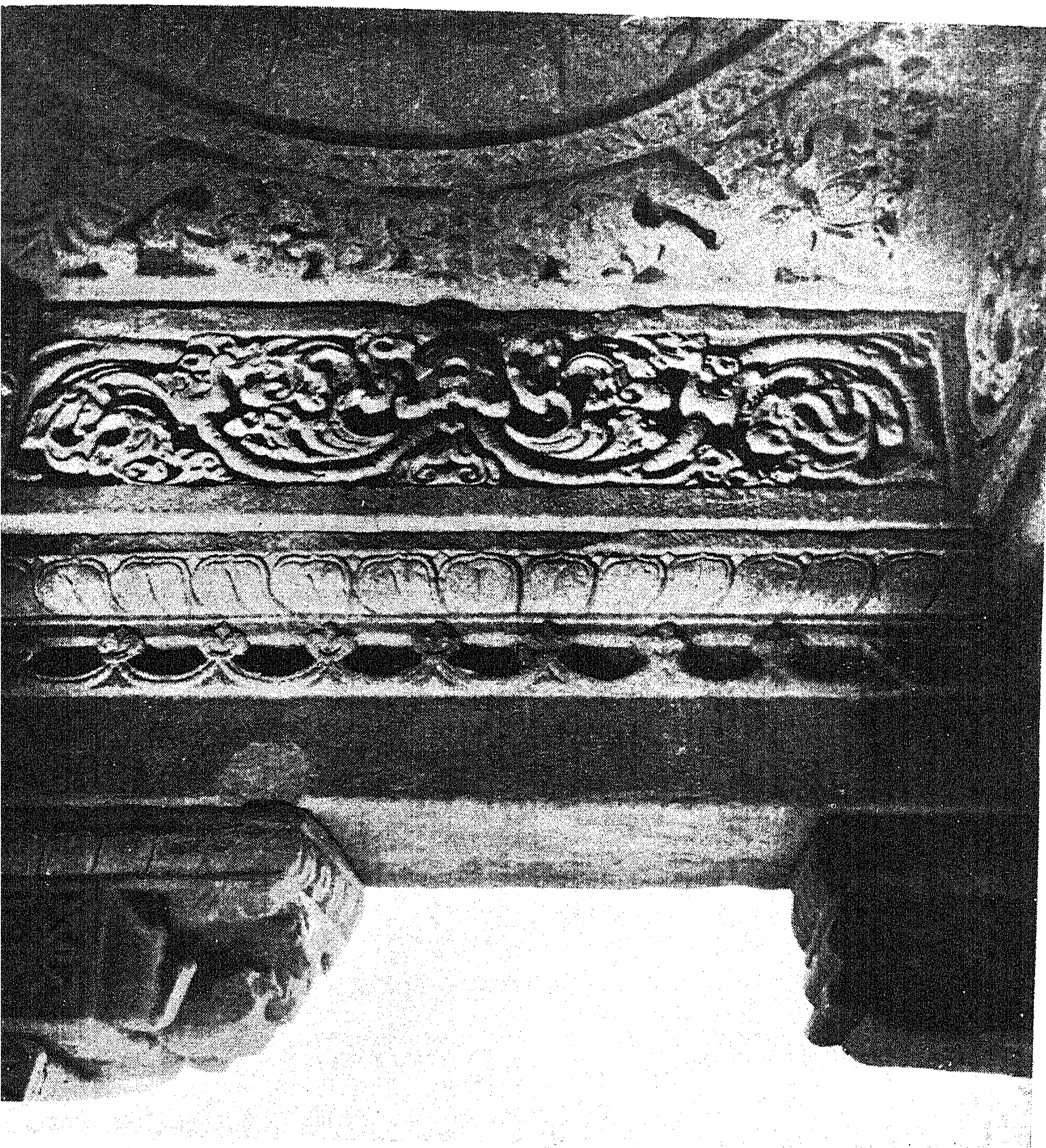


FIG. 3. Vine pattern on the lintel, Raṅgamaṇḍapa, Old Temple.

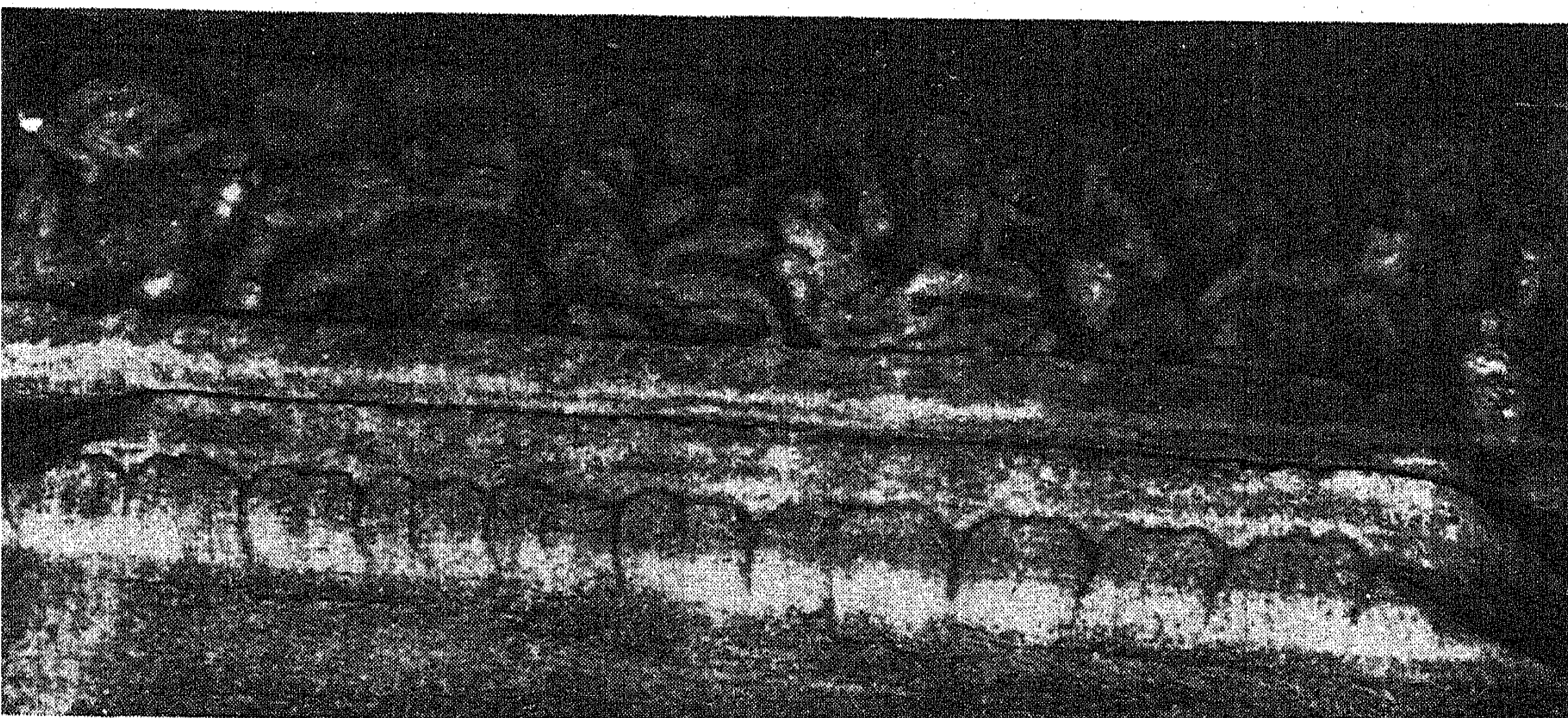


FIG. 4. Gaṇeśa and Lokapālas on the lintel, Old Temple, Lamba.

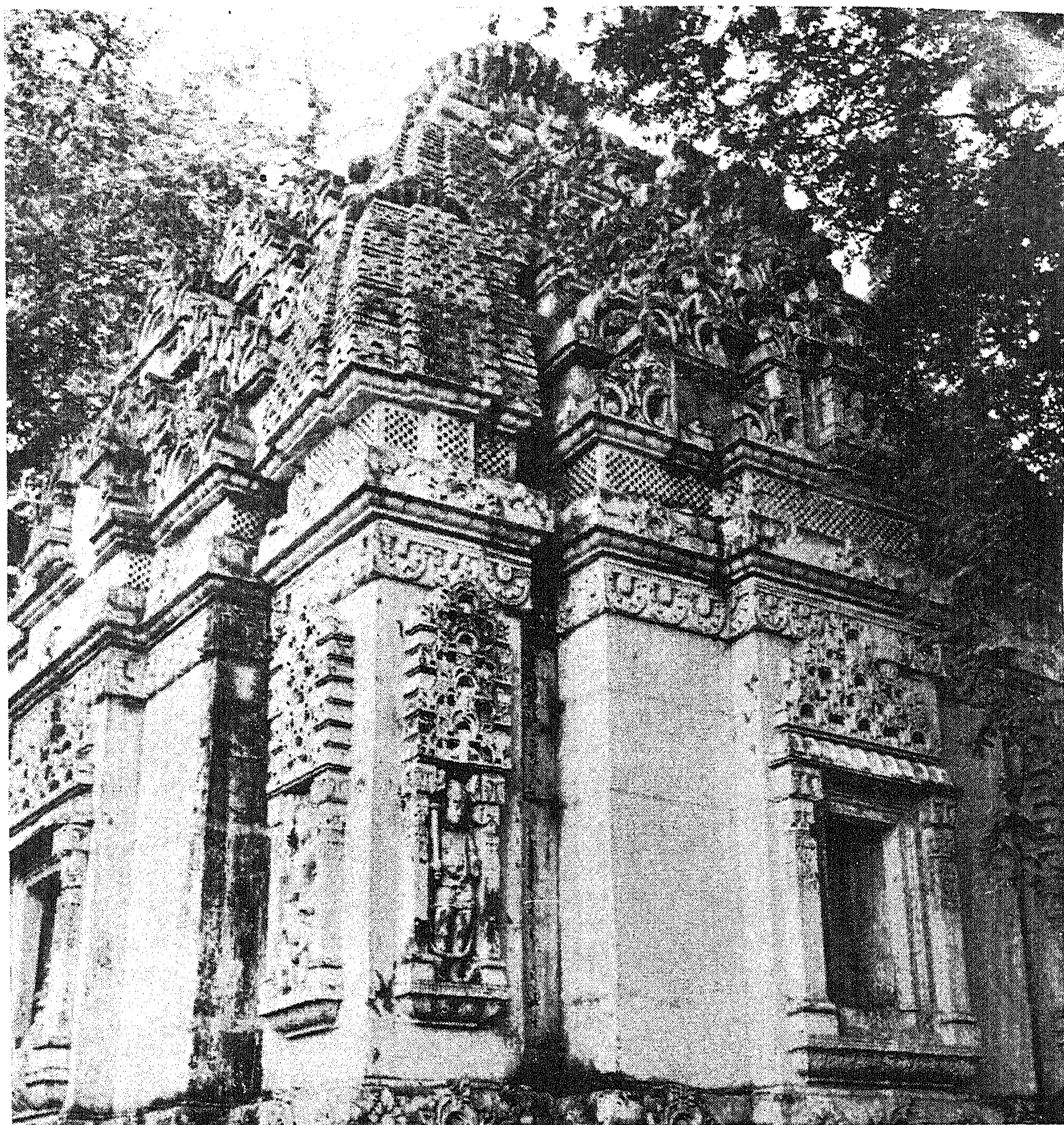


FIG. 5. Mūlaprāsāda, Kāmeśvara Temple, Auwa.

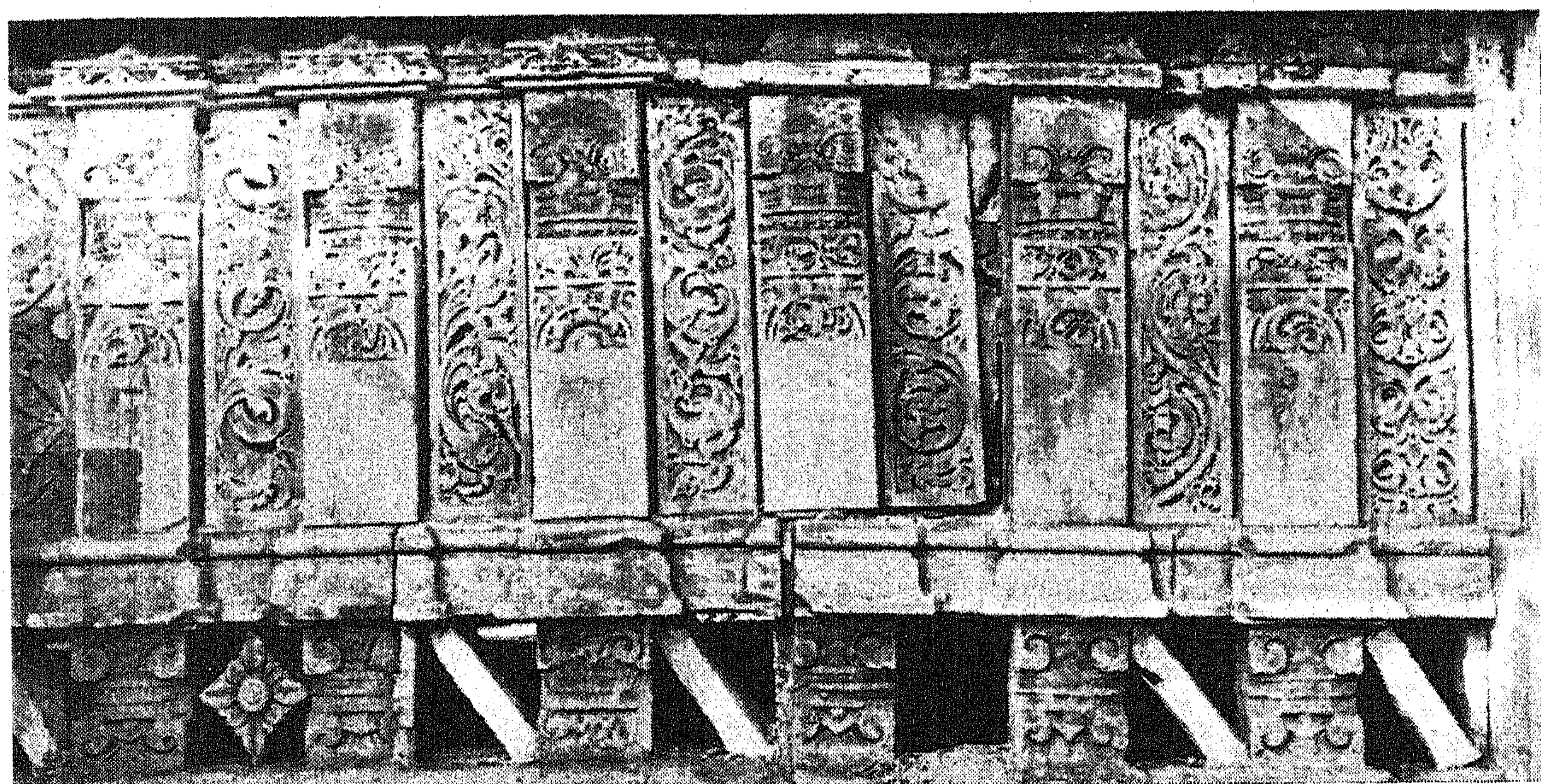


FIG. 6. Kadikā Paṅgamandana, Kāmeśvara Temple, Auwa.

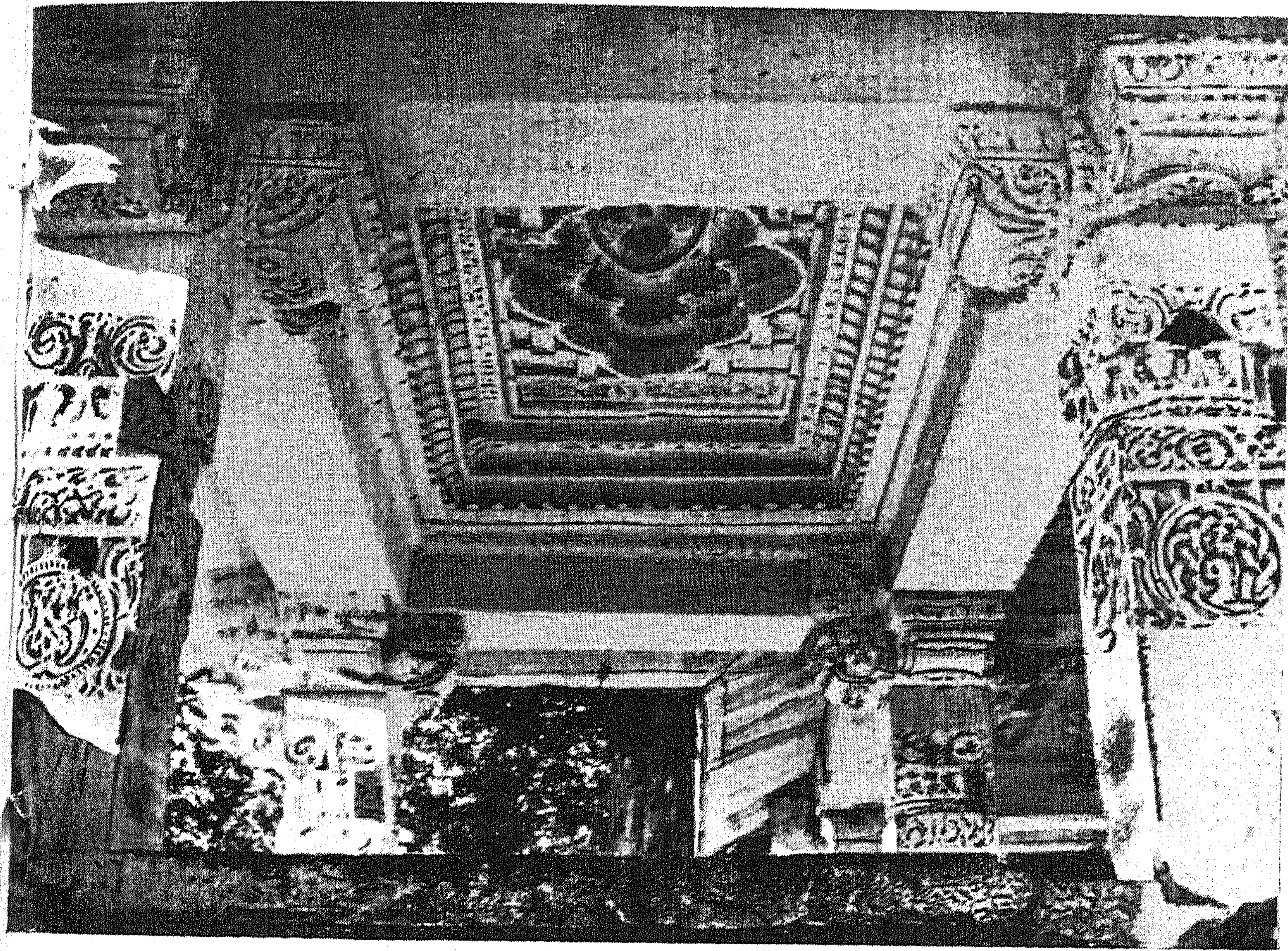


FIG. 7. Mukhacatuṣkī pillars, Kāmeśvara Temple, Auwa.

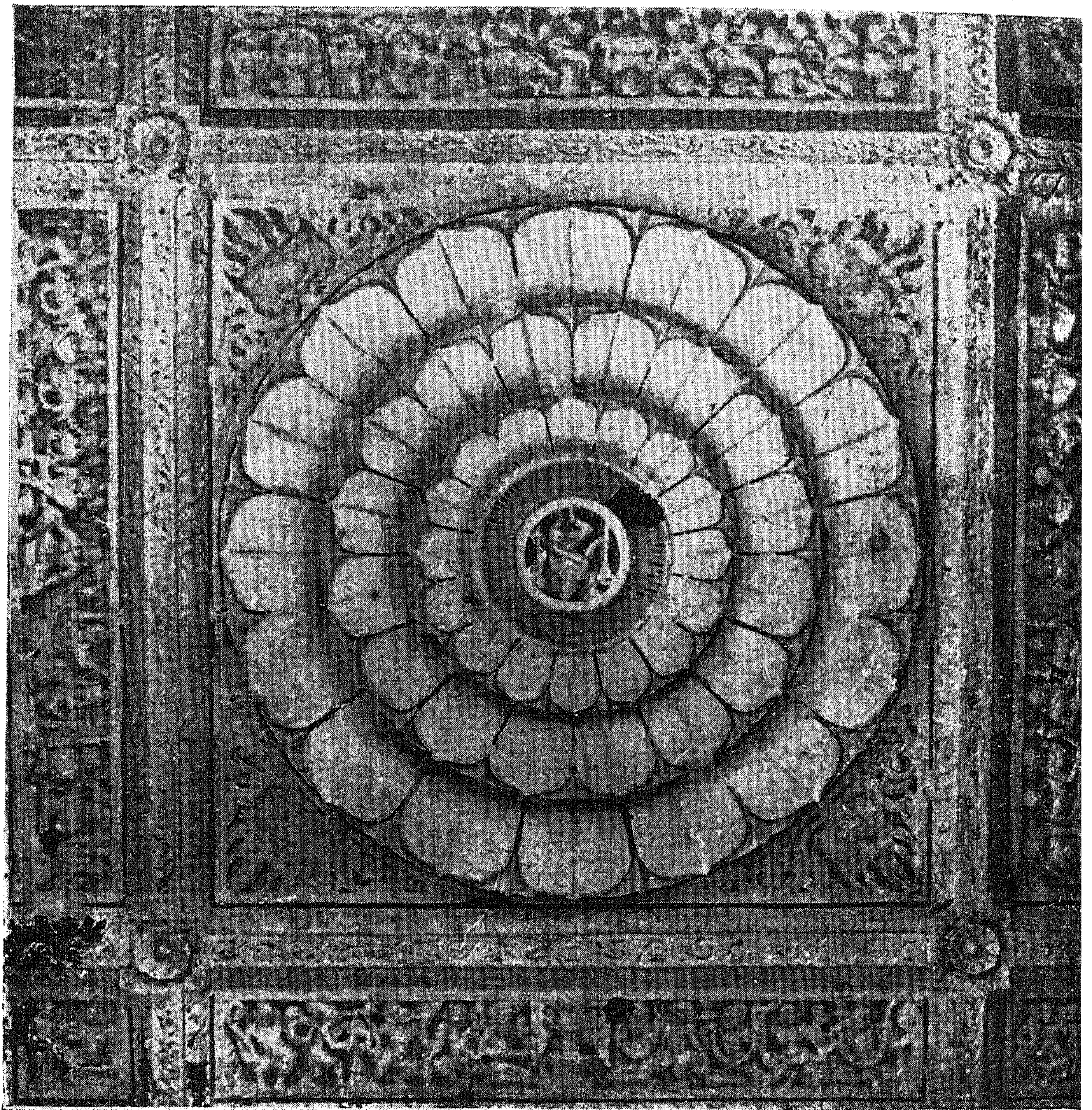


FIG. 8. *Samatala vitāna*, Raṅgamaṇḍapa, Kāmeśvara Temple, Auwa.

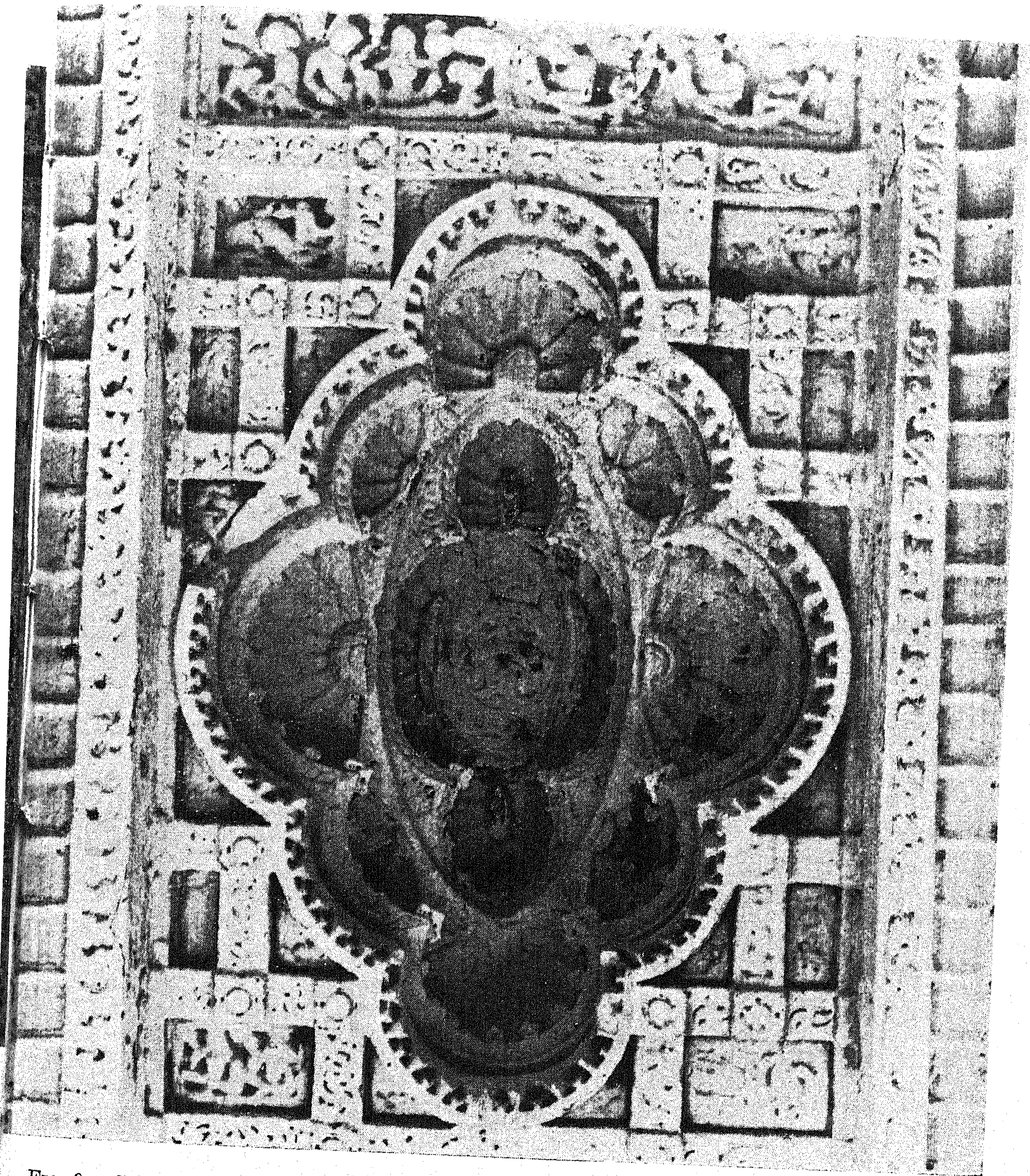


FIG. 9. *Samakṣipta vitāna* of Nābhicchanda order, Mukhacatuṣkī, Kāmeśvara Temple, Auwa.

CLAY FIGURINES OF THE MUSLIM PERIOD¹

By ADRIS BANERJI

(Received June 9, 1967)

Since historical researches commenced in the eighteenth century A.D. in India, it has been the practice to assume that all native arts and crafts died an unnatural death during the long rule of the Turko-Afghans. From the evidence furnished by the early mosques founded by the Islamic rulers we are in a position to recognize that, forced by circumstances, the Indo-Islamic art had several stages of evolution. A purely Islamic style established itself in the reign of the Tughluqs. In another contribution I hope to show that, notwithstanding the mass conversion and genocide of A.D. 1193, the Hindus survived in Delhi, then known as Dhillika or Yoginipura, and were a thriving and influential community. One of the *casus belli* that Timur invented to justify his invasion was the toleration of the *Zimmis* or the infidels. From the very initial stages at Delhi, Ajmer, Ranthambhore and places like Bayana, we meet with evidence of gradual accumulation of necessary technical knowledge gained by Indian masons habituated to its ornate horizontal tradition about the arcuate architecture of Islam. It has been supposed by many authorities that pre-Mughal paintings did not exist in India. But traces of paintings are met with in the tomb of Hassan Sur and his alleged 'Fort' at Sasaram in the Shahabad district of Bihar. Carr Stephen, who was Chief Judge of the Small Causes Court of Delhi, stated in 1876 that he met with traces of paintings on the dome of the tomb of Firoz Shāh Tughluq at Hauz-i-Khās. These clay figurines from Theh Polār, therefore, are of considerable importance to us in establishing that the potters of India did not cease from making clay figurines after the Muslim occupation. In spite of the great cataclysm and the emergence of a culture complex, the humble potters and doll-makers continued their profession to meet the economic and cultural needs of a new India.

The antiquity of terracotta art is indeed great in this country. India is mainly a riverine country and the silt deposits placed inexhaustible resources at the disposal of its inhabitants, provided they had the necessary imagination. Therefore the 'form' of its various regional cultures have always been distinguished by one trait: clay figurines or terracottas. Since time immemorial, the potters or *kumhārs* were hereditary doll-makers, and the method of preparation of clay figures is an operation which is even now unchanged. Large and small plaques well burnt was a well-known feature of Indian architecture. *Ensembles* of gods and goddesses were created and placed on wooden or bamboo shafts, like the modern images of Durgā, Kārttikeya, Jagatdhātri, etc. Such plaques have been found at Nāgarī (Chitorgarh district), Bhitārgāon, Nālandā, Sārṇāth, Kāśīpur, Bhiṭā, Basārḥ (ancient Vaiśālī), Kauśāmbī, Rugar, Rājghāt, Patna (Bulandibagh and Kumrāhār) and Ahichchhatrā. In pre-Islamic days these clay figurines served secular as well as ritualistic purposes.

¹ A brief summary of the paper read before the 26th International Congress of Orientalists held at Delhi in 1964.

They were utilized as icons in the house of people with a small budget. In three temples of Nālandā, huge desecrated images of unburnt clay are found. They were also manufactured as toys for children.

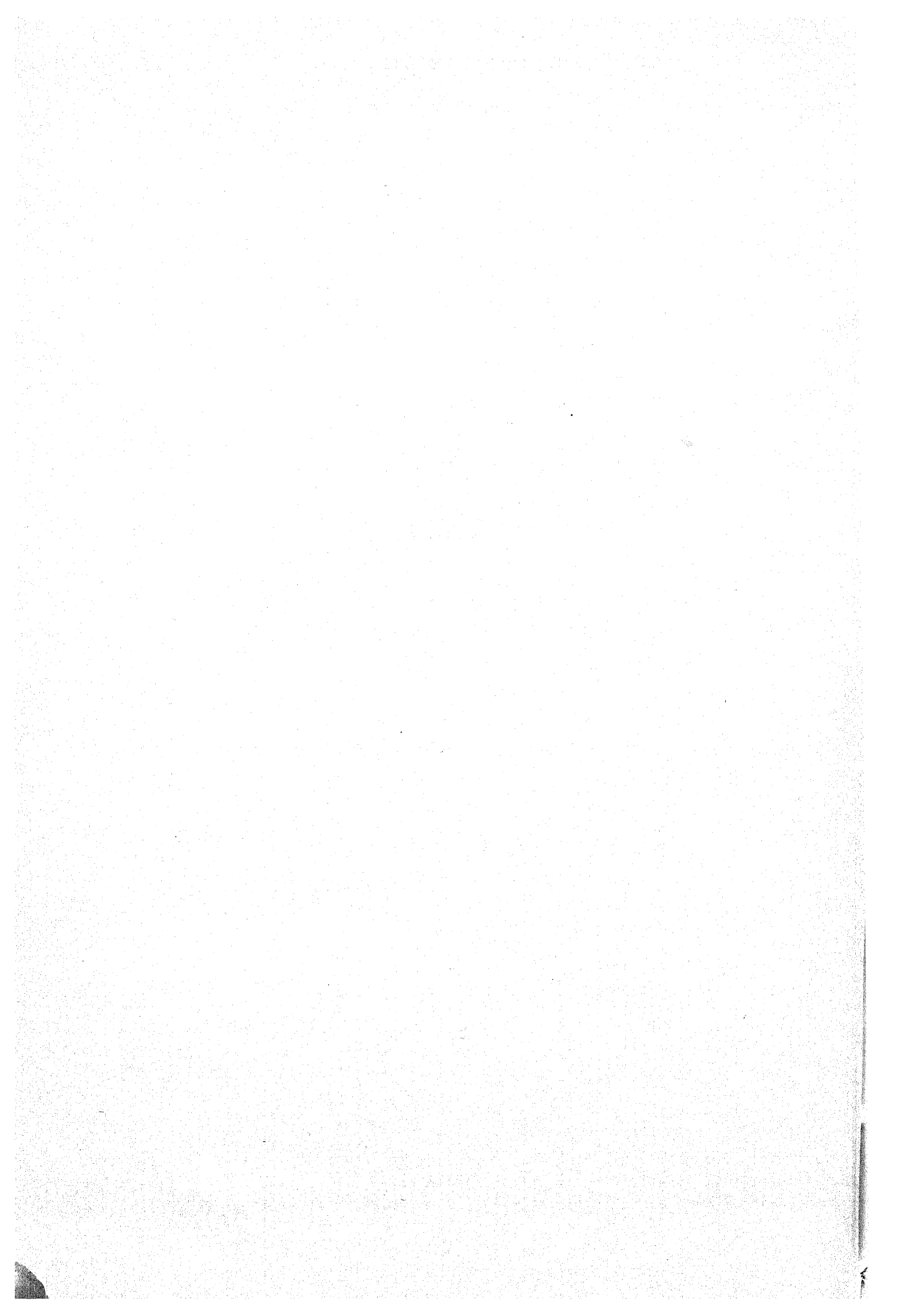
Theh Polār is a village which contained a series of mounds, the ruins of a city or a fortified village, whose history went back to the commencement of the Christian era. The place is located on the southern bank of the Sarasvatī river in the Karnal district of the Punjab. It was a part of the ancient land of the Kurus, like Hariyānā. That it was occupied by the Imperial Kushānas and then by the Yaudheyas is evident from the find of coins. Later on, possibly due to the Hūnic eruption, it became deserted, to be re-peopled by the Turko-Afghans. Examination of the mounds in 1933-34 led to the exhumation of a fortified place with four bastions at the four corners. The very first stratum yielded pottery consisting of glazed ware and unglazed ware in abundance, as at Adilabād, Hastināpur, Rupar and Lāl Kot or Rāi Pithorā. This stratum was objectively dated by finds of hoards of coins from the reign of Sultan Shāmsuddin Iltutmish (c. A.D. 1210-35) to the reign of Firoz Tughluq (c. A.D. 1351-88) testifying to the fact that Theh Polār flourished up to the end of the fourteenth century A.D.—at least a period of 178 years—that is, at a time when storm clouds were gathering on the north-western horizon of India, from the steppes of Central India, where a Mongol boy had grown up through persecution and adversity and was shortly to arrive on the banks of the Indus at Attock in pursuit of Jālāluddin, the Crown Prince of Khawarizm. History knows him as the Buddhist Chenghiz Khān. It was one of the Mongol inroads that must have put an end to Theh Polār.

In this stratum were found a large number of clay figurines of animals, one human figure and a clay cart of unique design which might have been actually used in the rural areas of southern Punjab. The technique also does not show any violent break from tradition. The first was the preparation of clay. In pre-Islamic days, sometimes *degraisants* were used to counteract the contraction of the clay during firing. Next was the process of manufacture. Since time immemorial two systems are met with, both fashioning by hand and moulding (that is, by use of moulds). Assimilation and absorption of intruding alien traditions have also been noticed in terracottas of Barodā, Pātnā, Ter, etc. Sometimes double moulds were also used. The figurines of Theh Polār, however, do not betray any complex manufacturing process. They are what may be called crude and primitive to a degree. All are solid and were modelled by hand. Portions were treated by a sharp-edged tool or iron instrument. The clay in virgin condition had a certain amount of sand, and the damaged pieces show a grey core betraying bad firing. Finally the finished products received a red slip. The figurines of horses found in the fifth city of Hastinapur, in Meerut district, which also belongs to this period, were hollow. But at Theh Polār (Fig. 1) all the examples are solid. The eyes are treated by 'applique' method. That is, circular pellets of soft clay were pressed on the main body and the centre punched with a sharp-pointed instrument. The wavy manes were made by parallel indentations.

Amongst the animal figurines found were horses, bulls of two types, (Fig. 2) one large (*Bos indicus*) and the other a short-horned one, composite animals, rams, horses with riders, a human figure and last but not least a clay cart (Fig. 3). Clay carts (*mṛicchakatika*) have been known since the palmy days of Harappan culture in the millenniums before the birth of Christ. Fine representations of carts have been met with in stone relief up to the sixteenth century A.D. But in design and quality this is a unique piece. It has four wheels on four axles at four corners. But the

rims are merely rings of clay and spoked like those occurring on the Asokan capital of Sārnāth, not solid like those of Harappa and Mohenjodaro. The upper structure consists of circular arches with a domical roof having a ridge at the base, topped by a finial. On the front is the head of a deer (?).

Another abnormality is the treatment of the lower lips of the horses which, like those of the camels, have been shown protruding.



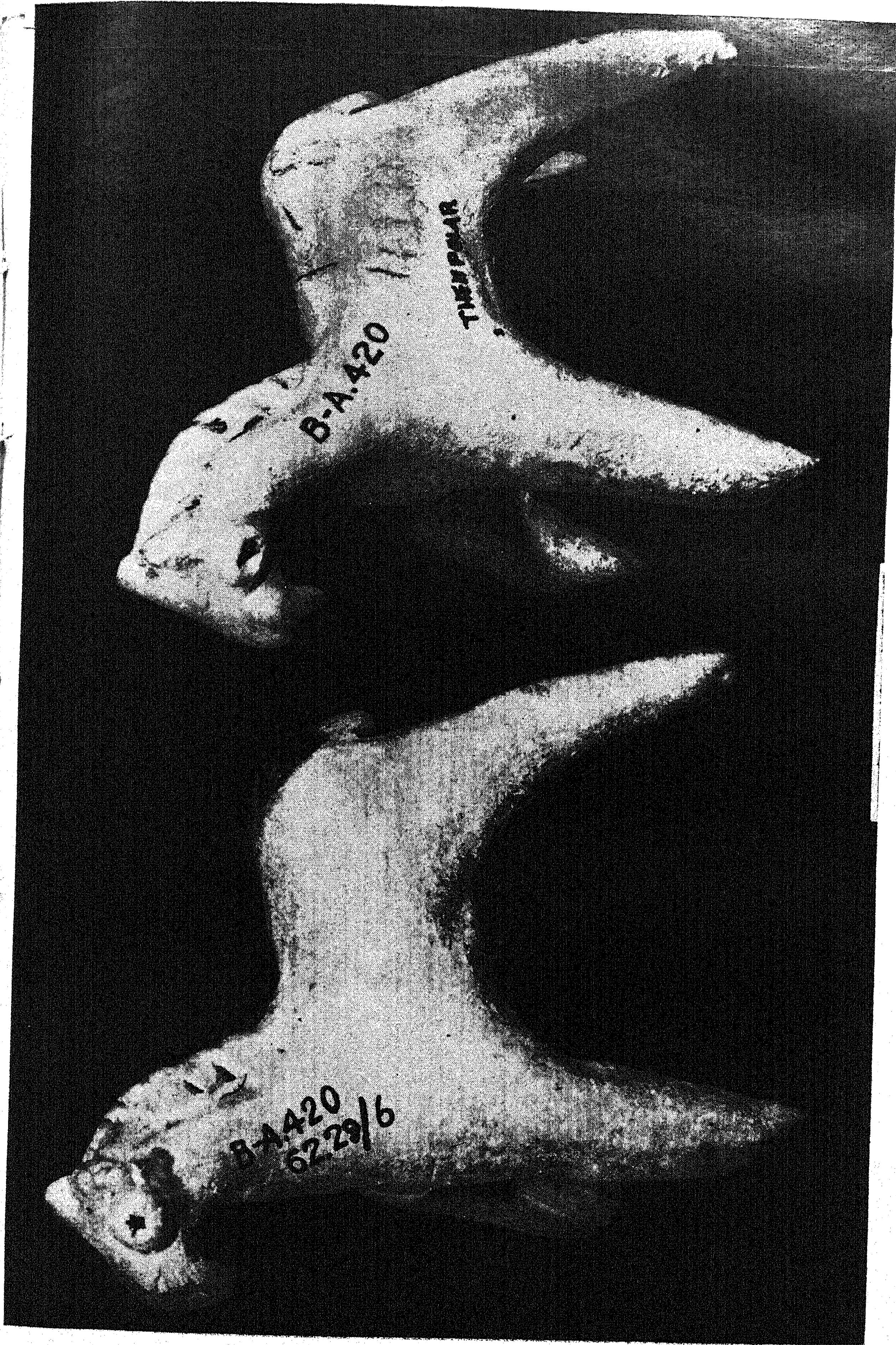


FIG. 1. Two clay figurines of horses from Theh Polār, Ambala district (c. thirteenth century A.D.).
Courtesy: Archaeological Survey of India.

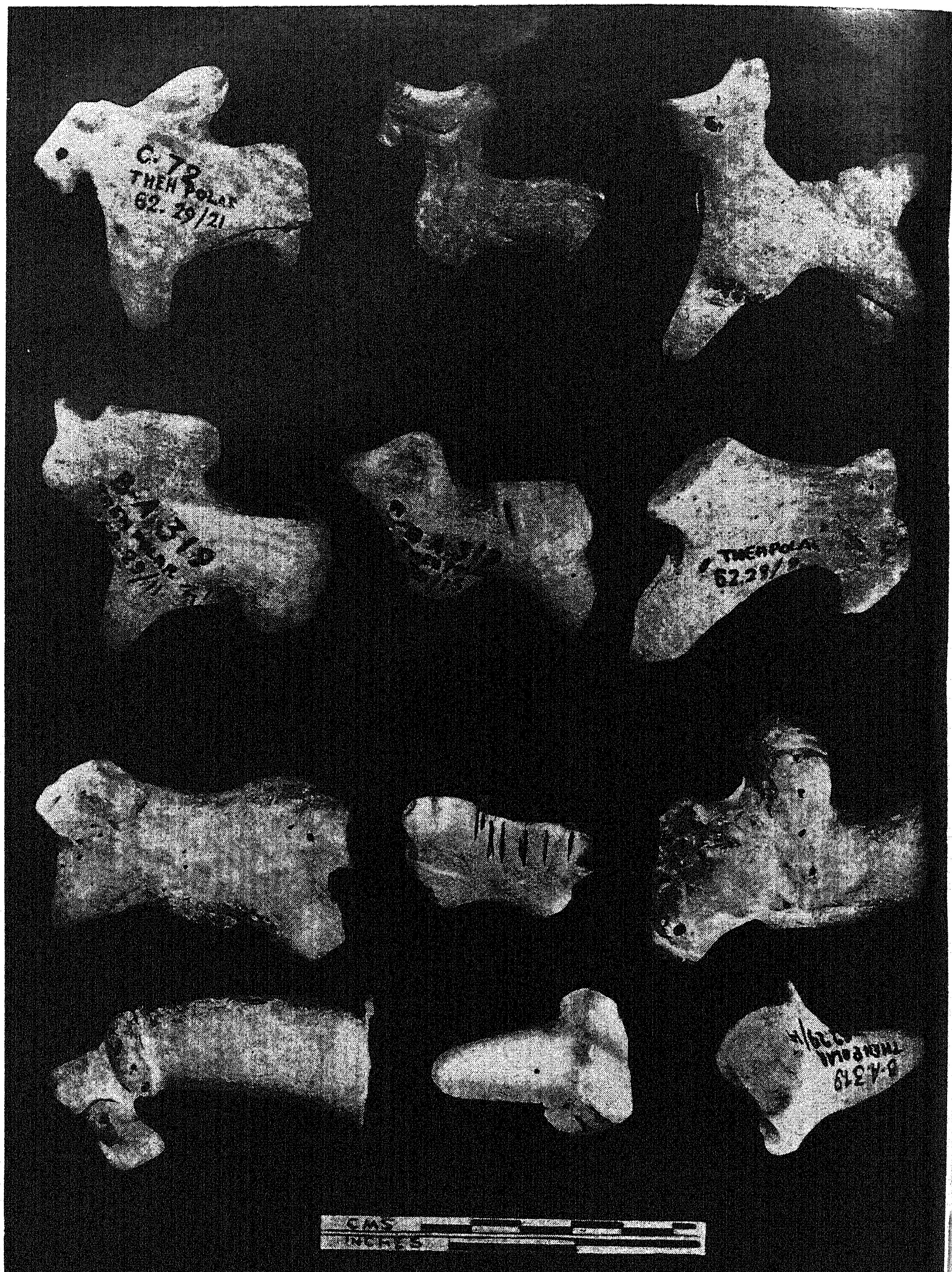
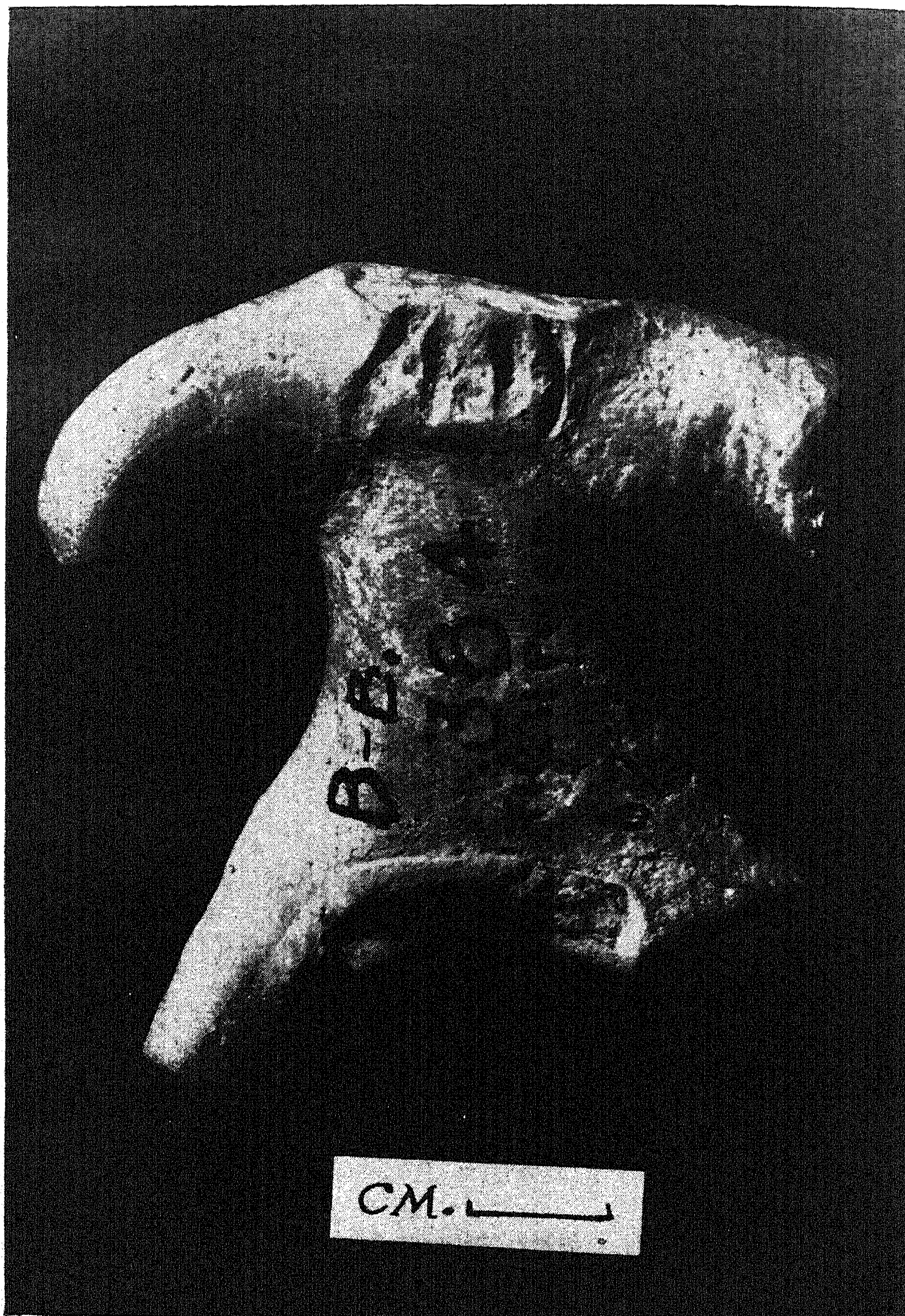


FIG. 2. Miscellaneous clay figurines, including those of bulls, from Theh Polār, Ambala district.

Courtesy: Archaeological Survey of India.



Fig. 3. A clay cart from Theh Polār in Ambala district (c. thirteenth century A.D.).
Courtesy: Archaeological Survey of India.



Courtesy : Archaeological Survey of India.

FIG. 4. An ageless type of human figurine from Theh Polār in Ambala district (c. thirteenth century A.D.).

THE LEDGER OF THE MERCHANT HOVHANNES JOUGHAYETSI

By LEVON KHACHIKIAN

Matenadaran, Yerevan, Soviet Armenia, U.S.S.R.

(Communicated by Professor Suniti Kumar Chatterji on 7th November 1966)

On 19th December 1682 (7th December, Old Style), a contract was signed in Nor Jougha between the sons of Khoja Guerak-Zakaria and Embroomagha on the one hand and the merchant Hovhannes, son of the priest David, on the other. According to this contract Hovhannes received from the above-mentioned brothers, Khojas, English broadcloth, about 217 *tumans* worth and a small amount of ready money (in all 250 *tumans*) for trading in India, on condition that he should get one-fourth of the profits.

This agreement was concluded according to and with due account of long-time legal traditions prevailing among the Armenian Khojas. A few decades later, in 1765, those traditions found their way into the 'Code of Law' compiled by the Armenians of Astrakhan as 'established and verified canons of law'.¹

This code of law of the Astrakhan Armenians and particularly its XIV chapter entitled 'On the Rights of the Tradesman' is completely devoted to the mutual relations between the Khojas and their employees and the obligations each contracting party was to assume (the Khoja is named here *Agha*, while the merchant trading with his money—*partner*). The 11th clause of the foregoing chapter reads as follows: 'Every partner is bound to enter, each dealing in a lawful ledger, truthfully and in time.' 'And if', the text goes on to say, 'a *partner* fails to submit a ledger to his master, he will be jailed, fed on bread and water alone and, at times, whipped, for a period of up to one year', etc.² The employee, named *partner*, must return to his place at Agha's first instance, and 'render an account before the partnership', or else 'whatever the profit of the partner, it will be appropriated by the master or whatever the probable loss, it will be incurred by the partner alone'.³

It can easily be realized that the legal terms were formulated in the economic and class interests of the Khojas. In other words, the employee-tradesmen were the servile executors of Khojas' will. Similar is the case with Hovhannes, son of the priest David, who, in observance of the above-said terms of the commercial code of law, compiled minutely the 'ledger' of his business transactions (called *Roozlama*), in addition to summary reports dealing with the purchase and sale of particular goods (called *kata*). The book covers the period of his 11-year long and tiresome commercial activities, beginning from 19th December 1682, until 6th December 1693.

This valuable ledger is now preserved in the Manuscripts Department of the National Book Depository in Portugal and is known as book F.G. 7970. It is made up of 44 separate leaves,⁴ one placed over the other, each 18 cm.

¹ The Mashtots Matenadaran (Yerevan State Research Institute of Ancient Manuscripts), MS. No. 7383, p. 57b and sq.

² *Ibid.*, p. 59a.

³ *Ibid.*, p. 59b.

⁴ The pictures taken from the micro-film are inadequate in determining the exact number of the leaves in the ledger. They vary between 42 and 44.

wide and 54 cm. long. Every leaf is filled on both sides with small-lettered accounts (they used to write on such narrow and small leaves in Tibet and in other countries of the Far East).¹

In his letter dated June 1961, Mr. Robert Gulbenkian informed us of the ledger. Thanks to his initiative, the Kalust Gulbenkian Foundation put out in recent years a number of original writings and lists of manuscripts in Armenian that are of significant value in Armenology. Some time later Mr. Robert Gulbenkian kindly placed a micro-film of the ledger at the disposal of the Mashtots Matenadaran in Yerevan. We printed pictures of the film and laboured for two years before we could decipher this extremely illegible, and, in certain places, complicated and incomprehensible writing. H. Papazian, a candidate in history, was of great help in deciphering the manuscript, and especially in elucidating the sense of hundreds of Persian words and terms. He will take part in preparing the publication of the ledger that will be provided with an analysis (in the form of an introduction), notes and an extensive vocabulary. We should attempt in the present paper to give an outline of Hovhannes Joughayetsi's ledger, throw light on its significance as a unique reference source treating of the trade of Armenians residing in Nor Jougha as well as of the history of the economic life in India, Nepal and Tibet.

I

The ledger begins with the following opening paragraph: 'In Jougha, a suburb of Isfahan, on the 22nd of the month of Hamira, 1131 (63 Azaria Style), i.e. in 1683, I entered into partnership receiving a capital of 250 *tumans* in all from Khojas Zakar and Embroomagha, sons of Guerak. By God I may take the sum to India for trade and three-fourths of the profit (apart from the capital) God gives will go to the masters, the rest—one-fourth—will be mine, Hovhannes'. May God keep me aloof from danger. Amen.'

To begin with, we should like to dwell on what we know of Hovhannes' masters, the dynasty of Khoja Zakar and Embroom. A number of richly illustrated data are to be found in a gospel. The latter was copied in 1644, the order being placed by Tsaghik, the mother of Zakar and Embroom, in memory of her late husband, Guerak, son of Embroom. The commemorative note of the gospel mentions the male members of the Gueraks: 'I supplicate to mention in your prayers to God the humble-spirited Christian and Christ-worshipper, Guerak, and his industrious sons, Grigor, Erestam, Embroom, Zakar, Margar and Pir-Atam, the young-yearred son of Grigor.'²

We have information elsewhere of the eldest of Guerak's five sons—Grigor. Two noteworthy medals are kept in the Medicean collection of the Bargello Museum in Florence. The obverse of those medals represents the image of an Armenian merchant, full-length and half-length respectively. The reverse is impressed with 'God's lamb', a lion to the left of it and the sun rising from the lion's back (the coat-of-arms of Iran which ostensibly indicates the native country of the represented person). Below the 'God's lamb' a beehive is pictured on both medals with a swarm of bees making straight for it.

The obverse of both the medals are engraved with circular inscriptions which took us painstaking work to decipher (we have only pictures of the medals at hand):

¹ N. V. Kyuner, *Opisanie Tibeta, čast' vtoraya, etnografičeskaya, vypusk I-ni bostav i byt naseleniya*, Vladivostok, 1908, p. 117.

² The Mashtots Matenadaran, MS. No. 6665, p. 281b.

(A) (*Obverse*): Grigor, son of the Mirmanents Guerak.

(B) (*Reverse*): Our Lord Jesus; the Lamb of God that bestowed manna on us in the year 1673.¹

Accordingly, the merchant pictured on the medals must be the elder brother of Khoja Zakar and Embroom Agha, Grigor, who was a resident of Italy. In accordance with GH. Alishan's data, an Armenian family called Guerak-Mirman did in fact live in Venice in the seventeenth century.²

The dynasty of the Gueraks lived in the quarter of the church 'Sourp Asvatsatsin' in Nor Jougha. (The above-mentioned gospel of 1644 is dedicated to that church). Referring to the history of that quarter H. Ter-Hovhantiants, well versed in the past life of Nor Jougha, took notice of a certain Khoja Guerak whose 'commercial arms stretched over Europe and in the direction of Astrakhan and Guilan'.³ This Guerak, however, differs from Guerak the father of the Khojas under consideration, yet he must be a descendant of the same line and should be the nephew of the senior Guerak or a close relative.⁴

'The commercial arms' of Khoja Zakar and Embroom Agha also extended the world over. The tradesmen who had entered upon the field of commerce with the capital of the Khojas had access to the important trade centres, from the Levant to the Tibetan capital (Lhasa) and the Chinese trading centre Sinin.

With reference to the medals, we have already spoken of the hive with a swarm of bees making straight for it. In the opinion of A. Sakisian 'it is an allegory of labour and extensive activities'.⁵ Nevertheless, we believe that we might be nearer the truth if we perceived in the engraved hive the treasury of the wealthy sons of Khoja Guerak, whereas the swarm should be reminiscent of the host of employees who wandered from one country to another, crossed 'hair's bridges and hellish tracks'.

Scanty are our data on the author of the ledger, Hovhannes, son of the priest David. He was well conversant with the systems of measures and weights in practice in various countries, the different monetary units and the weight of gold and silver each of them contained. He unerringly solved complicated arithmetical problems relating to the sale of various goods, bank and money transactions, at times quite involved. The entries in the ledger abide by accepted principles in book-keeping; the right-hand margins of leaves display expenditures noted after each credit item, while the left hand is taken up by incomes. His consistency in the use of figures deserves special mention.

All of these facts evidence that our merchant had had a sound training in some specialized establishment, prior to taking up trade.

During Hovhannes' business activities, such an establishment did in fact exist in Nor Jougha—the trade school run by Kostand Joughayetsi. It has a record of 250 'leavers' (ex-students who came out of the school) who were taught 'arithmetic, simple reading, clerkship and, in the main, instructions on trade'.⁶

¹ Arménag Sakisian, pages d'Art Arménien, Paris, 1940, Plate XLIII (*op. cit.* for an inadequate examination and decipherment of the medals, pp. 115–26).

² GH. Alishan, *Hai-Venet.*, p. 50 (in Armenian).

³ H. Ter-Hovhantiants, *A History of Nor Jougha a Suburb of Isfahan*, Vol. I, Nor Jougha, 1880.

⁴ The father's name of this Guerak (died in 1708) is Hakob, who had two sons, one of whom was called Hakob, too. (See H. Ter-Hovhantiants, *op. cit.*, Vol. I, p. 301, Vol. II, 1881, pp. 186–96).

⁵ A. Sakisian, *op. cit.*, p. 115.

⁶ H. Ter-Hovhantiants, *op. cit.*, B, p. 253.

When we compare the *Manual for Trade* Kostand Joughayetsi had compiled for his pupils with the 'ledger' of Hovhannes, every doubt as to Hovhannes having been a pupil of that school is dispelled.

Before his business mission to India where he went with the capital of Guerak's sons, Hovhannes had been to Turkey on business errands. This is proved by an entry in the ledger that reads thus: 'While going to Izmir we have lent money to Mooradkhan; the sum was returned in Bursa.'

As pointed out, his dealings in December 1693 form the concluding chapter of the ledger. At the time Hovhannes was in Calcutta, on his way back from Tibet, from where he went to Hookley (Hoogley). No information has as yet been available on his further wanderings.

In the writing quoted above, H. Ter-Hovnanians, who had at hand the valuable documents from the rich archives of Amenaperkich Monastery, enlists the names of 75 merchants who lived in the Meidan quarter of Nor Jougha in 1702. Numbers 19 and 20 of this list are taken up by brothers Hovhannes and Alam Ter-Davitian. We believe the first of these names is of our merchant, Alam being his younger brother. We have no notion of the whereabouts of Hovhannes in 1702. We are also unaware of the place where he breathed his last. The national book repository of Portugal is ignorant as to how Hovhannes' ledger has found its way there. Had not the lot of a tradesman taken him to that part of the European continent where he had closed his eyes away from his native place, under alien skies? Those are as yet open questions that will, presumably, be answered following a scrutiny of the archival documents preserved in Nor Jougha and elsewhere.

II

On 19th December 1682, Hovhannes, son of the priest David, leaves Nor Jougha, a suburb of Isfahan, for Bandar-Abbas with the aim of making a voyage to India. Let us follow his itinerary, producing at the same time data concerning the main items of his dealings.

We know already that the reason of Hovhannes' voyage to India lay in his intention to sell the 738 metres of red and green English broadcloth he had got from Khoja Guerak's sons (18 pieces of red and green narrow broadcloth, in all 726 gazes and 6 grehs).¹

In addition to the broadcloth Hovhannes was given a note of hand to the effect that he was bound to receive in Shiraz from Mr. Avetik, son of the pilgrim Petros, 29 *tumans* in cash. One *tuman* was allotted for buying the cloth (felt cloak and *varpoush*) used for wrapping the bales of broadcloth. Hovhannes was given in all two *tumans* 8,500 dians of ready money.

To get to the sea, Hovhannes takes the Isfahan-Mahear-Yezdekhas-Shiraz-Lar-Bandar-Abbas route.

On the 6th of February 1683, he reaches Bandar-Abbas. A few days later he sets sail for India on board the *Sleman*. 'In the year 1132 (i.e. 67, Azaria Style) on the 21st of the month of Nirhan (i.e. 21st of March 1683), on Friday, the ship, *Sleman*, cast anchor at the port of Bandar-Surat and on 23rd March, Sunday, we came ashore in Bandar-Surat; God give us a good guide: Amen': so Hovhannes writes on his arrival in Surat.

On 30th March the goods were taken from the warehouse of the port not by Hovhannes ('for I did not know the language') but by another employee of the masters, Nazaret by name.

¹ The paper is provided with comprehensive lists of measures, weights, commodities, monetary-units, etc., mentioned in the ledger, that have no English equivalents. Thus the original names are preserved in English transliteration.

The ledger contains some important data on the Armenian colony of Surat. Here Hovhannes spends the Easter holidays, makes presents to the Armenian church and meets, on various occasions, his compatriots to have dealings with them. The latter include Nazaret, Simeon, son of Khachik and brother of Movses Hovan, Markos son of the Topchents Poghos, Mooradkhan son of Gharagogh, Voskan Aguletsi, Toomajan son of Atom of Van, Gasbar Shambetsi, Martiros son of Eldram, Mekertoom son of Khanoomaghents Hovhannes, Galoots son of Panos the Mousheghs, and Manvel.¹ Besides, Hovhannes has dealings with the local middle-men—Trikam, Madan and Gooliat.

He leaves Surat on 15th May 1683, and on the 29th of the same month gets to Aurangabat² from where he departs on the 15th of July to arrive, on the 21st of the same month, in Burhanpur, where he meets a certain Shorents Tatos who collected money for the church in Shiraz. Accompanied by Baghoom from Erevan (i.e. the region of Erevan in Nor Jougha), he starts off and comes to Sironj on 11th August, where he stays for two and a half months (he leaves the place on 24th November). Here he makes mention of Aghazar and an Armenian deacon (whose name is not given).

He leaves Sironj, via Kashgar, for Agra (his transcription of the city is 'Ekra') where he arrives on 2nd December. In the years 1527–1658 Agra was the capital of the Moghul Empire and commercially the most thriving and prosperous city of India. 'Agra was at the Empire's crossroads that radiated in all directions like the spokes of a wheel', writes an English traveller.³

Armenian tradesmen lived for long in Agra. They had their church and permanent community. In the records of the ledger Avetik, son of Petros of Shiraz, figures as the main person with whom our tradesman enters into various dealings.⁴

In company with Baba, son of Panos, Hovhannes sets out on 6th January 1684, from Agra to buy indigo in Khurja. He returns to Agra on 13th March, bringing along 92 *charms* (over two tons) of indigo. He writes the following in this connection: 'On the 16th of the month of Nirhan I came to Ekra with 92 *charms* of indigo. Mr. Avetik was head of the transaction. Of the 92 *charms*, 34 were taken for Hovhan, Baba took 42 *charms* and Hovhannes took 16, so that we should go to cast dies in Surat.'

Hovhannes goes away to Surat on 21st March and arrives in Sironj on the 29th of the same month (where he meets Stepan, son of Dilak). Two days later he leaves Sironj for Surat where he gets on 12th April.

He ships the above-mentioned 16 *charms* (368 kg.) of indigo and seven bales of *serinj* and four bales of *dergaz* and authorizes his 'fellow-employee', Hovhan of Shiraz, to take part of the goods to Isfahan and the rest to Basra for sale.

On 29th May 1684, Hovhannes leaves Surat for Agra where he arrives on 13th December of the same year via Aurangabat-Berhampore-Sironj-Lashkar, making prolonged stops in all of those places (particularly in

¹ We are also listing those names which Hovhannes makes mention of on his second visit to Suram (in the spring of 1684).

² The names of places are given mostly in the transcription of Hovhannes, quoting at the same time their correct forms.

³ K. A. Antonova: *Očerki obščestvennix otnošení i političeskogo stroya Mongol'skoj Indii vremen Akbara (1556–1605)*, Moscow, 1962, p. 121.

⁴ One of the gospels, well known to us, mentions the relatives of Tsaghik, wife of Khoja Guerak: 'Remember again Tsaghik and her sister, Siprik, and her son, Avetik' (Matenadaran, MS. No. 6665, p. 97b). If this name is to be identified with Avetik, the son of Petros of Mahdas, the Khoja residing in Agra should be assumed to be the nephew of Zakar and Embroom Agha, Hovhannes' masters.

Aurangabat). Ten days later he goes to the cities of Khairabad and Lahurpur entrusted with the mission of buying stuffs called *bardar* and *kherabad*. This transaction takes up a new chapter in the ledger, the introductory part of which reads as follows: 'May God give us good luck: Amen. On the 26th of the month of Hamira I came to an agreement in Ekra with Mr. Avetik to go to Khairabad and Lahurpur to buy up to 12,000 lengths of *bardar*. In Ekra the price is to be paid by Mr. Avetik, I shall go there to make preparations. Half of the bargain will go to Poghos, son of Hovhan, and the other half will be mine. On the 26th of the month of Hamira I started for Khairabad and Lahurpur.'

Hovhannes fulfils his task with success. He buys 102 bales of *kherabad* in Lahurpur (each bale measuring 106 lengths). He brings the goods to Agra on 2nd November 1685; 50 out of the 162 bales he takes for himself and gives the rest to Mr. Avetik, meant for Hovhan of Shiraz.

On 21st January 1686, Hovhannes sends his share of *kherabad* to Surat where 'Hovhan of Shiraz, son of Poghos of Khassan, has the right to sell at his discretion for we are partners', writes he.

The foregoing entries on his business transactions are followed by the most informative and interesting part in the ledger:

'Hovhannes, son of the priest David, signs an agreement with Hovhan of Shiraz, son of Poghos (Hovhan was not in Agra, Mr. Avetik acts on his behalf), on 10th February 1686, undertakes the most distant and longest journey to Tibet (he transcribes it as Butand, i.e. Bhotanta or Bhotan).'

The introductory part of the relevant chapter in the ledger contains essential facts on the relations of the merchants involved in this newly-founded commercial company and on related matters. The share of every participant in the company is 4,685 rupees and the total investment in the company comes to 9,370 rupees (106 kg. 227 g. of silver).

It becomes evident from the numerous entries in the ledger that our Hovhannes (like his friend Hovhan, son of Poghos) undertaking of his own this business continues to be dependent on his *sahibs* (masters) in Nor Jougha.

Naturally he is no more the capital-divested employee of Khoja Guerak's sons who had come four years ago to India to sell his masters' 18 pieces of broadcloth and get the one-fourth of the profits. Now he has his own capital but is linked with his masters with unbreakable ties as an employee of the Guerak Commercial Company. Even in Lhasa, the capital of distant Tibet, he never forgets this fact, which is borne out by the following lines: 'We are wholly the servants of our masters who may settle our accounts as they choose.' He prays God not to disgrace him before his masters, to have pity on him and keep him aloof from trials.

In Tibet, as well as in other major centres that lay on his route, Hovhannes buys many sorts of goods for sale; they include in particular, precious stones such as 365 *sers* (323 kg.) of amber, 11.47, 5 *tanks* and then again 823 *tanks* of seed-pearls (32 kg. altogether), 273 pearls, 96 sard-made beads; 24 lengths of dress from *palankpoosh*, 72 lengths of various sorts of calico, 16 lengths of stuff and many more goods worth 8,216.5 rupees (about 94 kg. of silver) in all.

To take all those goods to Tibet Hovhannes hires two servants in Agra—Poghos, son of the priest Petros, with an annual salary of 50 rupees in addition to food and clothing, and Ghamash Petros, on the same terms, but his salary amounting to only 40 rupees. Both he and his servants were armed with weapons. There are two entries in the ledger that speak of buying powder and bullets.

As we have pointed out our merchant leaves Agra on 12th February 1686. In the city of Shikohabad he joins the caravan bound for Patna

and passing through the cities of Makhanpur, Jahanabad, Benares and Shahzadpur he reaches Patna (which he transcribes as Patana) on 9th March of the same year.

There is a substantial community of Armenians also in Patna. On various occasions Hovhannes has dealings here with Armenian and foreign tradesmen, some of whom he mentions in his ledger: Master Petros, Khachik son of master Grigor, Chakuch Hakobjan, Murat, Petros grandson of Kachal Tsatoor, Vartanes son of Stepan, the French Mussidarvan, his son Panos, and servant Manvel, middle-man Enoob, and the commercial company of the Valandz.¹

In Patna Hovhannes is the guest of an Armenian priest. In the city he buys more goods for Tibet. He pays for the commodities 680 rupees (7.7 kg. of silver), mostly various kinds of stuffs (*chapla*, *alaja*, *biari khassa*, white *cheera*, thick and thin calico, *solagazi*, etc.).

He departs from Patna on 31st March, passing on his way through the stations of Hajipur, Minapur, Birba and Patrinka. From Birba his ascending trip begins. Hovhannes hires a beast of burden to load the goods (he calls it a 'cow', meaning presumably the yaks that were used in those parts as pack animals).

On 21st April 1686, he arrives in Nepal (he writes it as 'Nekpal') where he stays for three months.

In the meantime Nepal was partitioned into a number of small mutually hostile feudal principalities. The valley of Nepal comprised the kingdoms of Kathmandu (Kantipur), Bhadgaon (Bhaktapur) and Patna (Lalitapur), ruled by the princes of the Malla dynasty.²

Hovhannes pays a visit to those three major centres of Nepal. On 19th July he leaves Kathmandu (here, too, he makes some minor purchases) for Tibet. He comes to Bhadgaon (he writes 'Badgam') via Sanko, Listi, Kassai, Kuti, Ziguichai³ and Lhasa.⁴

The place name of Kuti he mentions (the old name of the pass being Tong-Li) enables us to determine the track our merchant has used. Even to this day the busiest road from Nepal to Tibet lies through this pass of the Himalayas.

His journey to Lhasa takes about two and a half months, from 19th July to 30th September 1686.

Hovhannes, son of the priest David, is the third personality so far known in Oriental studies who had penetrated into Tibet and had made records about this country. The first of these Western travellers was the Franciscan missionary, Odorico of Pordenone, who visited Lhasa in 1325-26 and he left concise yet dubious data on the mode of life and religious beliefs of the Tibetans.⁵

¹ This list includes also the names of those persons that are mentioned during his second trip to Patna in 1692.

² I. Red'ko, Nepal, Taškent, 1958, p. 10 sq.

³ The settlement transcribed as 'Ziguichai' is Shikadze (known also as Shikhatsze, Sikatse, Jigarji—in Tibetan spelling Bzhi-k'a-rtse, etc.), the next in importance administrative and religious centre of Tibet. It is the seat of the Panchen Lama. See the various transcriptions of this place name in the works given below:

I. Ya. Bičurin (Iakin)—Sobranie svedeniĭ po istoričeskoĭ geografii vostočnoĭ i sredinnoĭ Azii, Čeboksary, 1960, p. 557; I. M. Prževalskiĭ, Iz Zaĭcana čerez Xamsi v Tibet, Moskva, 1948, p. 218; N. V. Kyuner, Opisanie Tibeta, č. I, Vladivostok, 1907, pp. 1-2.

⁴ His transcription of the city is Lassa. This is also the way Tibet's capital is pronounced by the Chinese. (See I. Ya. Bičurin, *op. cit.*, p. 536.)

⁵ Les Voyages en Asie au XIVe siècle du bienheureux frère Odoric de Pordenone, religieux de St. François, ed. H. Cordier, Paris, 1891, pp. 449-54.

No European visited Tibet ever since, until the year 1661 when the Austrian Jesuit, Johan Gruber, in company with the Frenchman, Albert d'Orville, left Peking for Lhasa (via Sinin and Nang-chou), where they stayed for two months, after which went over to India and came to Agra by way of Nepal. In some of his letters Gruber gives valuable information, especially on the geography of Tibet and the way of life of its people.¹

The European predecessors of our merchant made very brief stays in the capital of Tibet, and few are the facts that they have recorded, particularly on the economic life of that distant land. On the other hand, Hovhannes Joughayetsi lived there for almost five years (57 months), had dealings with scores of government employees, Buddhist clergymen and merchants, learned Tibetan, sold and bought various goods, paid taxes and duties, tried and was tried; and on all those facts he entered in the ledger precise and reliable data.

Hovhannes is so far the first and only Armenian merchant whose ledger treating of his dealings in Tibet has reached us. However, he has trodden the path of most of his Armenian predecessors visiting this country, well-known to the Armenian Khoja capital. In the text-book compiled for the commercial school in Nor Jougha, Kostand Joughayetsi has also given authentic data on the units of measure and weights used in Tibet (Butand), of course, gathering the facts from those merchants in Nor Jougha who had been to that country long before Hovhannes and were well aware of the local way of life and customs.²

And it was on 30th September 1686, that Hovhannes entered Lhasa.

To rely on his own testimony, at the time he knew neither the language nor the customs: 'When I first went to Lhasa I knew neither the local language, nor the customs and measures.'

Yet he did not experience great difficulties; the Armenian merchants residing in Lhasa, and particularly the Tibetan employees of Hovhannes' masters living in Nor Jougha, helped Hovhannes to conduct successfully his business transactions in the new environment.

During his five-year stay in Lhasa our merchant had dealings with many Armenian, Tibetan and Kashmirian merchants and buyers. He mentions the names of most of them: Tsatur son of Ghoukas; Melijan son of Poghos; Abraham son of Gazketsi Karapet; Matos of the Melijans; Nekghos (i.e. Nikoghos); Hakob; Khumtsi Agha; Davoot; Murat; Hovhan son of Sargis; Agntsi Aslan; Petros; Nemo Anjole; *Nivar*³ Kanashnki, *Nivar* Jekalia, *Nivar* Mado, *Nivar* Garoo; the Kashmirian Hafiz Enahat, the Kashmirian Sadegh, the Kashmirian Khoja Ismahel; Kotval; Shamoo-gone; Tsomgo Lovza; Lamai Kisi; Azish Lamu; Gampai Lamu; Lamu Buine; Hakoo Lamu; Dev Nassu; Devai Chalink Pumule; Haji Mahmud; Molai Hashoot; the goldsmith Devmoo; the smith Assit; the tailor Jansi; the barber Dobu; etc.

Some of the above-mentioned merchants were in Lhasa together with their families. The ledger contains entries as to the death of David's son and as to giving a certain sum to him in this connection as well as of giving some 'money for dress' to Nikoghos' wife (Khizani) on the eve of the Easter.

¹ M. Thévenot, *Relations de divers voyages curieux qui n'ont point été publiées*...

² K. Joughayetsi's *Manual for Trade* contains valuable data: 'And Butand where the accepted measure of weight is the *lank*; 1 *lank* = 10 *miskalis* which is named one *gaturi*; 1 *miskali* is 5 *foons*; 1 *foon* makes 19 *grans*. The Tibetan 10 *miskalis* equal Iranian 8. The Tibetan 1 *miskali* is 77 *grans* in Iran.

³ *Nivar* or *Nvar* is the name given to one of the races living in Tibet (see N. V. Kyuper, *Opisanie Tibeta, čast' vtoraya, Etnografičeskaya, Vypusk I-ī, sostav i byt naseleniya, Vladivostok, 1908, p. 4.*

For some time Hovhannes lived in the family of Nikoghos and they shared the expenses on food.

Lhasa has been the remotest haven for our Hovhannes. He made no new trips during his five-year stay there. But most of the Armenian merchants, and in particular Tsatoor, Melijan, Nikoghos and Davoot, had more than once gone to a very distant place from Lhasa, named Slink in the ledger, from where they took great amounts of ingots of gold, tea, musk and shawl of Slink. We found out that Slink in Tibetan (also Sillin, Zilin) was the name given to the city of Sinin (Si-Nin) bordering on China. Two ways led to Sinin from Lhasa, one of them 1,800 and the other 1,700 km. long. To get to Sinin one had to cross hundreds of kilometres of uninhabited and difficult mountain tracks.¹

In Lhasa Hovhannes begins to sell the goods he takes with him, first to his compatriots, Tsatoor, Melijan, Abraham, and others, the cost of most of them payable within a year. Thus one of the entries reads: 'I sold to Tsatoor seven sets of amber beads weighing 16 *tanks*, the sum to be paid in a year on his return from Slink,' or 'I sold to Poghos, son of Melijan (then he enumerates the different ambers weighing 64 *tanks* in all), the cost price to be sent from Slink in a year', etc. In addition to precious stones, Hovhannes gives to his compatriots silver in place of gold at the rate of seven to one. The same Melijan, for instance, gets from our merchant 504 (19 kg.) of silver 'to be paid in a year's time—one *khamser* gold in return for seven *tanks* of silver, to be sent from Slink, or paid on his return'.

However, it was natural that most of the buyers should be local tradesmen and representatives of the feudal upper layers. Hovhannes was in close contact with the Nivars—Soon Dev, Kanashnki and Jegalia; he sells them more than once amber and other valuable stones to get musk in return.

In Lhasa Hovhannes buys, in the main, musk, tea and gold. On the eve of his departure he fills 18 sacks with musk he had bought in those years and in a special account he enlists all the important entries in the ledger concerning his purchases of musk.² Leaving Lhasa he takes with him 483 kg. of musk. The gold he buys weighs 5 kg. 130 g. He also takes other goods with him such as brassware, chinaware, high-priced woven fabric, spices, tobacco, and so on.

On 10th February 1688, Melijan Matos, an employee of Hovhannes' masters, dies in Lhasa; whereupon our merchant becomes the will-maker of his personal effects and goods. Hovhannes opens a new chapter in the ledger where particulars are recorded about his transactions relating to the money and personal effects left by the late Matos.

On 21st June 1692, Hovhannes leaves Lhasa to return to India by the same way. He arrives at Ziguichai on 3rd July, at Kuti on 30th July and at Kassai on 3rd August. Crossing the difficult mountain track lying between the two last places, our reticent merchant does no more contain himself as he notes down the following lines: 'The entire track is obliterated by flood waters; it is the road to hell; you have to cross a hair's bridge.' Then passing through the settlements of List and Sanko, Hovhannes comes to Kathmandu on 18th August where he sells some of the goods and makes purchases (he buys candles, cardamom, *tumafarmin*, 30 batches of paper, a brass-made candlestick, a fishing-net with leaden accessories, various textiles, etc.).

¹ See 'Putešestvie v Tibet', by Sarat Čandra Das, pp. xiv-xv.

² Musk (Latin 'muscus') is a very fragrant substance which some untamed male animals and mammals produce. In the Middle Ages this substance was in great demand in the market and was used in perfumery and medicine.

A caravan was bound to leave Kathmandu on 28th November 1692; Hovhannes was to join it. Yet the current unfavourable political conditions hinder his plans, and he has to stay a few months more in Nepal. In this connection he makes the following entry: 'On the 1st of the month of Hamira, the Raja's caravan that recently set out from Nekpal for Makvanpur was taken prisoner by Nivar Spandiar; they are in a state of war and the road is barred. We shall see what the Holy Spirit has in store for us. Our Lord Jesus keep us aloof from danger, we are poor.'

Hovhannes commissions a person to go to Darbhanga 'to get a permit of leave from the Navab'. A little later he refers to the matter again as he writes: 'At first he was refused the permit on the grounds that the entire country was at war and in case of a mishap, who was to be held responsible? Later, when the Kashmirians returned from Patna, the permit was issued.'

Upon orders from the Navab of Darbhanga, on 13th March 1693, Hovhannes leaves Kathmandu and comes to Badgam (Bhatgaon) a day later. Next he passes through the settlements of Kambu, Sanku and Golkhibas before he arrives at Patrinkai on 21st March, the first town across the Indian frontier. The next stations he calls at are: Kotraihai, Erajvarai, Damami, Batnaiai, Naraingat, Gagrigat, Chanter. Part of the way (from Erajvarai to Batnaiai) was unsafe. Hovhannes and the accompanying Jew merchants hire 12 mounted bodyguards to cross that part in safety.

On 2nd April, Hovhannes gets to Mazaffarpur, then to Hajipur, and on 5th April to Patna. Here he stays again for seven months, calling in the meantime at Hajipur for a couple of days.

In Patna Hovhannes puts up in the room that had been hired for visiting Armenian merchants by a certain master, Petros ('Master Petros has hired a room for visitors to stop at'), and begins his trade. He sells his and the late Matos' gold through the middle-man, Enoop, the candle he had bought from Nepal and other goods. He buys 50.5 litres of *soupon*, 68 litres of *adrak* (so far the names of those goods remain unintelligible to us),¹ 22.5 *sers* of myrobalanum, 14 hookahs, precious stones (emerald, ruby), various costly textiles, and so on. On 30th July he goes to Bihar for a few days where, too, an Armenian colony was in existence with a church of its own.

On 26th October, 1693, having shipped part of the goods he had brought from Lhasa, Hovhannes undertakes a trip along the Ganges, and on 4th November arrives at Rajmahal where he stops for seven days before he continues his trip down the river. On 18th November he comes to Hookley (Hooghly): 'By God's will', writes he, 'we arrived together with our goods at Hookley Bandari, safe and sound.'

He found here some noted Armenian merchants as Marut and Issai, members of the well-known dynasty of the Joughayetsi Lusiks, Hovhannes son of Janoom, Panos son of Hovhannes of Erevan, a certain Vartanes, and Grigor. He also makes mention of the Armenian church in Hookley; he gives the priest of the church some money for the mass.

In 1688, the year when Hovhannes started for Tibet, the English Company in Eastern India signed a contract with a prominent Armenian merchant, Panos Kalantar, a resident of Surat, according to which the latter pledged to give up the overland transit route and to carry the freight from India and Iran to Europe by water using the ships of the Company. Presumably by reason of this agreement, our Hovhannes 'loaded' as he puts 'soupons for Calcutta to be given to the English', on 2nd December. Two

¹ *Adrak* = ginger; *soupon* = Hindi *saūph* < *saumph* (from Sanskrit *śata-puṣpā* > Prakrit *saavuppha*, *saāūmpha*) = anise [S. K. Chatterji].

days later he arrives in Calcutta on board a ship¹ and sells to the Englishmen 42 litres (25 sers, 241 kg.) of his *soupons* at 213 rupees.

On 6th December 1693, Hovhannes returns to Calcutta from Hookley and it is at this place that his invaluable ledger ends.

III

In following the routes of the Armenian merchant, Hovhannes Joughayetsi, in the years 1682-93, we attempted at the same time to show what he and the other merchants in touch with him imported to India, Nepal and Tibet and what they exported from those countries. This point, however, deserves particular attention; for, apart from the main commodities entered, the ledger contains also the names of hundreds of other items and data as to where they had been acquired and which were the more profitable markets.

A study of this series of problems involves a great many difficulties since Hovhannes enumerates on the whole the goods subject to selling and purchasing in terms of names widespread among the merchants of Jougha in those days, yet quite unknown to us today. Thus he speaks, for instance, of goods produced in *Kherapat* or *Lakayur*, i.e. the cities of Khairabad and Laharpur. One can gather from the ledger that those are, no doubt, fabrics, yet the stuffs of which they were made (wool, cotton, flax, silk or some other material), their standards and patterns are questions that remain so far unanswered.

The data contained in the ledger, that relate to the business transactions of Hovhannes, will naturally draw the attention of those specialists who are engaged in the study of the history of craftsmanship and trade in India, Nepal and Tibet. To facilitate, to some extent, their work, we quote in an alphabetical order the names of almost all the goods enlisted in the ledger, furnishing them, as far as possible, with concise explanations. (The list has been drawn up with the active participation of H. Papazian):

1. *Adoar*—the name of a cloth; bought in all two lengths in Kairabad; paid 1,252 rupees.
2. *Aghegh*—a precious stone-sard; two types are mentioned—white and limpet.
3. *Alaja*—(various sorts of *alaja* are mentioned: *chukha*, *tingayi*, *kham*, *charkhana*), a variegated cloth, coverlet.
4. *Aloor*—flour.
5. *Ambravi kezez*—the stone of date-palm of which beads were made.
6. *Ampua*—a kind of dress made of *chanti*.
7. *Anach*—uncertain.
8. *Apricshoom*—a silk thread of which hoods were made.
9. *Ater* (also green *ater*)—an aromatic leaf used as spice.
10. *Atrak*, *atrak jam*—a square towel, handkerchief.
11. *Bafta*—a cotton fabric.
12. *Bampak*—cotton.
13. *Bank parai*—uncertain.
14. *Banovsha*—a violet dye.
15. *Bara gaza*—the name of a cotton cloth manufactured in Lakahur and elsewhere; he bought it at the price of 2.5 rupees per length.

¹ Ashot Hovhannissian, *Episodes from the History of the Free-burning Mind of the Armenians*, 2nd book, Yerevan, 1959, p. 450 (in Armenian).

16. *Bardar*—coarse fabric ostensibly used for wrapping the bales.
17. *Baroot*—gunpowder.
18. *Behdana*—quince stone used in medicine.
19. *Bihari khassa*—a costly cloth; he bought the length at 1.75 rupees.
20. *Boghcha*—a simple cloth; bought for making clothes for the servants.
21. *Boore* (which is *kechifarta*)—uncertain; he bought one only.
22. *Boorghi*—a precious stone.
23. *Boozghanch*—uncertain.
24. *Bora*—a sack.
25. *Brindz*—rice.
26. *Chadir*—a tent.
27. *Chai*—tea.
28. *Chakma*—footwear.
29. *Chali* (which is *jajim*)—a small carpet.
30. *Chanakh*—a vessel with deep-lying bottom.
31. *Chanti* (*kura*, thin and white)—a kind of cloth; he bought it in Sironj.
32. *Chapla*—expensive cloth bought in Patna; the length at about 3 rupees.
33. *Cherak*—an icon-lamp.
34. *Chini* (bowls, cups, etc.)—chinaware.
35. *Chipigari*—uncertain.
36. *Chrra* (white, thick, thin badla)—gold-thread-woven fabric.
37. *Chit* (of *Valanduz*, *Bandar*, *Bnaris*, *Unugur*, thick, thin, *Siakat*)—calico.
38. *Chola*—cloth, 1.08 rupee the length.
39. *Chot*—cloth.
40. *Chotabara*—cloth, 0.64 rupee the length.
41. *Chotari*—cloth, 0.25 rupee the length.
42. *Chovia*—lining.
43. *Chuni*—a kind of article sold by the piece.
44. *Daba*—a leather pouch.
45. *Danak*—a knife.
46. *Dastakhan dogazi*—a tablecloth, two gazes long.
47. *Dergazi*—a cloth, he bought in Khairabad, 333 lengths and sent it to Isfahan and Istanbul for sale.
48. *Durbin inglisi*—an English spyglass.
49. *Duria, durie*—a costly cloth; he sold the length at 5.5 rupees.
50. *Dzet*—thread (?).
51. *Emerti*—a kind of fabric; he bought three lengths for 6.525 rupees (including the price for dying).
52. *Erankin*—the same washed-white gaz.
53. *Erekhta*—ingot of gold.
54. *Erevant*—rhubarb.
55. *Fili lain*—ivory (?).
56. *Foota*—gold-thread-woven fabric.
57. *Gani*—a coarse thick fabric to make 'bora'.
58. *Gavat*—a cup.
59. *Ghalam franki*—a European pen.¹
60. *Ghalian*—a hookah.

1. Following the pronunciation of ق as gh in Persian, we have Gh for ق in this and some other words [S. K. Chatterji].

61. *Ghotazi poch*—the tail of an ox-like animal that was fastened to the ends of flags.
62. *Ghufl*—a padlock.
63. *Ghuti*—a box.
64. *Ghula*—a bullet.
65. *Gon*—leather.
66. *Grdloo*—a precious stone.
67. *Gulap*—rose-water.
68. *Halila*—a kind of plant (myrobalam). [Skt. *haritakī*: S. K. C.]
69. *Jajim*—a thick tarpaulin-like cloth.
70. *Jezma*—slippers.
71. *Jola*—see *chola*.
72. *Jora*—perhaps *jorap*, i.e. stockings.
73. *Kadak*—handkerchief or coverlet-shaped white or green silk cloth. Widespread in Tibet as articles for sacrifice.
74. *Kaghat*—paper.
75. *Kaghtsreghen*—sweetmeats.
76. *Kalaiptun*—*klapiton*, i.e. an edge laced with gold and silver threads.
77. *Kandi*—an expensive cloth, 2 rupees the length.
78. *Karbar*—amber.
79. *Karmizar*—piece-goods, each bought for 3·5 rupees.
80. *Kassa* (brass or iron-made)—a vessel with deep-lying bottom.
81. *Kesh* (green, *lahuri*, *charkhana*)—probably a coverlet.
82. *Kesherk*—scales.
83. *Keshta*—a fabric used for covering the goods or the sacks.
84. *Khanchal*—a dagger.
85. *Khassa bihari*—see Bihari *khassa*.
86. *Khavandasta*—mortar and pestle.
87. *Khazan arkaté*—an iron saucepan.
88. *Kherapati*—a costly fabric manufactured in the same city.
89. *Koochin*—a cloth of large dimensions which he bought in Lhasa.
90. *Koorajani*—uncertain.
91. *Koora ketav*—used as coverlet for loads.
92. *Kor*—a kind of article sold by the piece.
93. *Kotoo*—coarse cotton.
94. *Ktav*—a white, thick sama-cloth.
95. *Makhmoor zarov*—velvet woven in gold-thread.
96. *Mamoorkhani*—an expensive cloth; he bought the length at 1·1 rupee.
97. *Mancha*—goods sold by weight; he bought this kind in Lhasa.
98. *Lachidana*—cardamom.
99. *Lafaf*—a coverlet.
100. *Lagan*—a large vessel for water.
101. *Lajvart*—a costly dye, sea-blue, of mineral composition.
102. *Lain*—an inexpensive coloured cloth, perhaps calico.
103. *Lakayuri*—an expensive fabric woven in the same city; he bought the length at 2·5 rupees.
104. *Lanka arkaté*—an iron vessel.
105. *Latoor*—an article sold by the piece; he bought it together with a lock.
106. *Lekhép*—a quilt (< Persian *lihāf*).
107. *Leghak*—blue.
108. *Londriné*—English broadcloth.

109. *Londré*—inexpensive red stuff.
110. *Mafrash kashé*—a leather-made large-sized sack.
111. *Margarit*—pearl.
112. *Marhama*—a soft cotton cloth that has been used both as towel and for bandaging.
113. *Marmar*—an expensive fabric, 4 rupees the length.
114. *Mekh arkaté*—an iron nail.
115. *Marjam*—a small pearl.
116. *Mintali*—an article sold by weight, probably almond.
117. *Mom*—candle.
118. *Mooshk*—musk.
119. *Mooshtak*—fur, fur-coat.
120. *Mooza*—high-necked shoes.
121. *Necha*—goods sold by the piece; bought in Patna.
122. *Palankpoosh* (thick *mltana*, etc.)—a coarse fabric for wrapping the loads.
123. *Papooch*—simple footwear.
124. *Patari*—a carafe.
125. *Patka*—an inexpensive cloth.
126. *Patka zarov*—gold-thread-woven cloth of large dimensions; he bought it in Benares 15 rupees the length.
127. *Patlegghen*—plates and dishes.
128. *Patu* (*tiki*, *pruru*, red, white, etc.)—coarse fabric for clothing.
129. *Peri* (printed)—perhaps a coverlet or a cloak.
130. *Pisooz deghnapeghentsé*—brass candlestick.
131. *Poch*—see *ghotazi poch*.
132. *Samsa* (*sia samsa*)—a cloth adorned with silk.
133. *Sandoogh*—a trunk, box.
134. *Sank*—see *booghzi*.
135. *Sefra*—tablecloth.
136. *Segari* (also *soogari*)—an article sold by weight, bought in Patna, sold in Nepal.
137. *Semagh*—a kind of Oriental spice used in meat courses.
138. *Shakar*—sugar.
139. *Shal*—shawl.
140. *Shila* (red hemp)—a kind of hemp.
141. *Shisha*—a flask or tube.
142. *Solagazi*—a simple cloth for suits and lining.
143. *Soupon*—an article sold by weight; he bought 50 litres of it in Patna and sold the article to the English (= Hindi *saūph*, 'anise'; see footnote No. 1 at p. 10).
144. *Soorai* (perhaps *jastesooriai*)—uncertain.
145. *Soossy* (*soossidaria*)—an expensive silk-woven cloth; he sold it in Agra 2 rupees the length.
146. *Soozani*—laced cloth.
147. *Taghik namazi*—a small carpet to pray on.
148. *Taisamsa*—an article sold in pairs.
149. *Tali*—a kind of piece-goods.
150. *Talis*—hemp-thread-woven cloth.
151. *Tambaku*—a kind of tobacco.
152. *Tamk dziu*—horse saddle.
153. *Tantsoo*—a kind of precious stone.
154. *Tas*—a plate.
155. *Tas chaikhori*—a tea plate, saucer.
156. *Tavartash*—some kind of piece-goods.

157. *Tavizani*—an ornament made of precious stones, beads.
158. *Tefeldan beghendze*—spittoon.
159. *Tel*—thread.
160. *Timach karmir*—inexpensive cloth; bought in Nepal, the length at 14.25 rupees.
161. *Tirma* (red, white *tiki tirma*)—a fabric made of fine goat hair.
162. *Tla-i zar*—gold thread.
163. *Toomafarmis*—some kind of goods sold loose.
164. *Torn*—fishing-net.
165. *Utu*—an iron.
166. *Varpoosh* (of Tabriz, Agra, etc.)—a simple cloth used as coverlet; a sack.
167. *Yapnji*—felt used to wrap the bales.
168. *Yara gazi*—the same as thin *chanti*.
169. *Yil jankali*—cardamom.
170. *Yudi*—a dress made of *chanti*.
171. *Zafran*—saffron.
172. *Zarajat*—small articles.
173. *Zemroot*—emerald.
174. *Zoof*—a woollen fabric.¹

This list indicates that in addition to the basic items of import and export (expensive fabrics, precious stones, musk, spices, tea, chinaware, etc.) Hovhannes, son of the priest David, and the other merchants from Jougha also bought and sold articles of lesser consequence in compliance with the requirements of the population of India, Nepal and Tibet and particularly the upper layers of the feudal class. Likewise they took a hand in the domestic trade of those countries.

IV

The scientific value of the ledger assumes greater significance if we realize the fact that its author has given in detail reliable figures as to the volume, weight and price of all the goods. Many are, too, the data relating to the prices of the goods sold, with the exception of those that were despatched to Isfahan, Brusa and elsewhere or were sold after 1693 (the entries in the ledger end in that year).

The task confronting the economists and historians is the evaluation and professional analysis of the data Hovhannes has put forward. As this lies beyond the scope of the present paper, we should like, nevertheless, to draw attention to some of the entries that have to do with the retail market prices of foodstuffs in India; this will promote the study of the living standards of India and her neighbours in those days.

On 8th September 1693, Hovhannes buys in Patna 13 litres 11 *sers* of rice paying 17 rupees. The measure unit of India called *akpar* litre is the equivalent of 25 kg. 509 g.; *ser*—the fortieth part of one litre—is equal to 637 g. Therefore our merchant buys about 400 kg. of rice at 17 rupees the kilo which means the weight of 194.4 grams of silver. Thus he pays 0.48 grams of silver for a kilogram of rice. There is another fact about the purchase of rice which reveals that he has paid 0.58 grams of silver per kilo. In the same year and place he buys '14 *sers* of flour' paying 0.55 rupees, i.e. 6.23 grams of silver. Fourteen *sers* equal almost nine kilograms, therefore one kilogram of flour he buys at 0.69 grams of silver.

¹ The list does not include a number of goods so far undeciphered or unchecked.

On his way back from Tibet to India he buys 3 sheep, paying 2.5 rupees which means that each sheep came to 9.65 grams of silver.

It should be useful to give a rough estimate of the money or silver our merchant used to spend on food daily. This fact is also treated of by noteworthy records. Almost two-and-a-half years past his arrival in India he states: 'On the 28th of the month we gave for food 6.5 *lanks* per month which makes in all 182 *lanks*.' Thus his daily expenses amount to 8.18 grams of silver or 0.72 rupee.

Those entries in the ledger that pertain to the sum he has spent on food during his five-year stay in Tibet are of great interest: 'In 76 (Azaria Style), on the 21st of the month of Shbat (i.e. on 21st June, 1692), Tuesday, we set out from Lassua. During the 57 months my expenses on food came to 171 *lanks* 5.5 *miskalis* including food and pocket-money. I made up one account for all of those expenses.'

Accordingly he spends during the 57 months 171 *lanks* 5.5 *miskalis* in all that is 6 kg. 482 grams of silver which means a daily average of 3.79 grams of silver. One can deduce from these data that as compared to India foodstuffs were cheaper in Tibet.

Diverse and valuable are the evidences concerning the profits derived from the sale of various items to be found in the ledger. We are already aware of the fact that the 16 *charms* (about 368 kg.) of indigo our merchant bought in Khurja in the year 1684 were sent to his friend, Hovhan of Shiraz, for sale in Basra. According to one entry 'the expenses on 16 *charms* of indigo including those for shipping came to 3,842.33 rupees' or 139 *tumans* 3,200 *dians*.¹ Hovhan of Shiraz fulfilled the commission and in a letter, excerpts from which are quoted in the ledger, he says: 'I have sold 16 *charms* of indigo in Basra, have received ready money 208 *tumans* 7,385 *dians*.'

Thus Hovhannes had from the sale of indigo a net profit of 69 *tumans* 4,185 *dians* which forms almost 50 per cent of the cost price.

On 15th January 1686, Hovhannes buys 23 lengths of *palankpoosh* in Agra at 29.78 rupees. He sells the same goods in Kathmandu for 50.5 rupees. The net profit amounts to 20.72 rupees or about 71 per cent.

He buys in Agra 60 lengths of *unuguri* calico paying 56.275 rupees. Seven lengths he gives to various persons as present, 53 he sells in Nepal for 92.28 rupees (1.73 rupees per length). If he sold at the same price the lengths he had made presents of, he would gain extra 13.12 rupees. Thus his net profit comes to 49.2 rupees or about 88 per cent.

On 25th February of the same year he buys 20 lengths of *palankpoosh* and 2 lengths of *soozany* in Shahzadpur paying 14.55 rupees. He sells these goods in Lhasa for 29.27 rupees. The net profits amount to 14.72 rupees or above 100 per cent.

In Patna he buys some small articles for 7.3 rupees, which he sells in Lhasa for 17 rupees. The net profit is 9.7 rupees or 132 per cent. He purchases in the same city half a litre of Chinese sugar² for 6.75 rupees. Half of it, as he says, 'has been consumed' (that is he uses himself) selling the other half in Nepal for 8 rupees.

The whole he could sell for 16 rupees which would mean a profit of 9.25 rupees or 137 per cent.

¹ Hovhannes notes on many occasions that 1 *tuman* is the equivalent of 27 *shahijani* rupees.

² It is interesting to note that the commonest word for *sugar* in Bengal and Eastern India is *chini* or 'the Chinese article', and not the native Indian word, *sakkar* (= Sanskrit *śarkarā*): this is due to the Chinese method of bleaching brown sugar into white, which appears to have come to India possibly before A.D. 1500 [S. K. Chatterji].

Many more similar interesting evidences can be cited. Unfortunately, however, the ledger lacks such data as would allow us to see the profits Hovhannes had acquired from the sale of basic items: precious stones, musk, tea and spices. The precious stones that he took to Tibet (amber, pearl, cardamom, and so forth) he exchanged for musk and tea; and the facts that relate to the sale of the goods brought from Tibet must have been entered at a later date in the unpreserved pages of the ledger.

Nevertheless the data available provide enough evidence to conclude that penetrating into the remote corners of India and particularly in Nepal, Tibet and China, the Armenian merchants used to derive net profits of from 70 to 130 per cent from their transactions.

V

The ledger of Hovhannes, son of the priest David, is an inestimable source whereby one can get a true knowledge of the duties imposed on commercial goods in Iran, India, Nepal and Tibet, the size and kind of other taxes, the ways in which goods and money were taken from one place to another, the terms of money loans and the investigation of related questions.

Let us now dwell in brief on this set of questions.

Starting off from Nor Jougha Hovhannes takes with him to India only 18 pieces of broadcloth. On Iranian soil, before he reaches Bandar-Abbas, he pays tax in four places *erakhtarana* (i.e. a tax imposed in favour of those guarding the roads). In Mahear he gives 520 *dians*, in Yezdkhas 50, in Shiraz 1 *tuman* 2,100 *dians* for weighing the goods, Zaghat 1,000 *dians*, *erakhtarana*—1 *tuman* 2,480 *dians* (in all 2 *tumans* 5,580 *dians*), in Lar 100 *dians* as *erakhtarana*.

Kostand Joughayetsi reports in his *Manual for Trade* particulars on the fixed taxes levied by government officials at Bandar-Abbas when taking goods out of Iran: 'At Bandar-Abbas and Kank', writes he, 'the customs *dalal* (official) exacts duties 1,000 *dians* per *tuman*, 350 *dians* is the *khoorooj*, 122 is the *roosoom*, 50 *dians*—*nevissandi*;¹ thus the tax levied per *tuman* comes to 1,522 *dians*.'

The data entered by our merchant fail to concur at certain places with those of the *Manual for Trade* which points to the violation of existing tariffs by the tax-collectors for their private ends. According to data of the ledger the middle-man measures in Bandar-Abbas and counts 18 pieces of broadcloth; he finds 36 *gazes* in every piece and every *gaz* estimating at 2,500 *dians*, the middle-man evaluates the goods of Hovhannes at 148 *tumans* 5,000 *dians*; and they exact the taxes accordingly:

- (1) *Oushour*.—Out of every *tuman* they have exacted 1,077·5 *dians*, or 10·775 per cent of the whole (according to the *Manual for Trade* they ought to have exacted 10 per cent). Hovhannes has paid 16 *tumans* for *oushour*.
- (2) *Khoorooch* ('out'—the tax levied for exporting the goods from the country).—They exact 360 *dians* out of every *tuman* (3·6 per cent) while according to the *Manual for Trade* 3·5 per cent is the appointed tax. He pays 5 *tumans* 3,420 *dians* for *khoorooch*.
- (3) *Eresoom* ('taxes').—They have exacted 1,220 *dians* for every *tuman*, adding *oushour* and *khoorooj*. This kind of tax has amounted to 2 *tumans* 5,620 *dians*.

¹ See the list of local taxes.

- (4) *Gharz daroughaki* (a tax paid to get a receipt from *darougha*).— They have levied 100 *dians* for every bale of goods, that has come in all to 600 *dians* (this is not mentioned in the *Manual for Trade*).
- (5) Hovhannes gives 600 *dians* to the *Shahandar*, the chief of the port, and to *Nvisandi*, the Clerk (according to the *Manual for Trade* 50 *dians* were to be given to the clerk alone).

Thus for goods that were valued at 148.5 *tumans* the various taxes to be levied at Bandar-Abbas should be, according to Kostand Joughayetsi, 22 *tumans* 6,017 *dians* while in fact they have exacted 24 *tumans* 240 *dians*, i.e. 16 per cent of the total value of the exported goods.

As to the cost price of the commodities bought in India, frequently Hovhannes adds in his ledger also the sum of the taxes paid, which makes it difficult to determine the price and the tax of the goods. There are, however, exceptions to this which enables one to get some knowledge of the taxes imposed in India on marketable goods.

Kostand Joughayetsi has the following entry in his *Manual for Trade* concerning the taxes, exacted in Surat for precious stones: 'For amber and other precious stones the duty imposed is 38.5 per one thousand.'¹

The ledger clears up this matter, too.

On 28th November 1686, while preparing to set out for Tibet, he agrees to take with him a large amount of amber. He writes in this connection: 'On the 1st of the month Hamira in Ekra, in the presence of the representatives of the Armenian commercial community I got 365 *sers* of amber from Mr. Avetik. Those representatives took away 5 *sers* as tare; they appreciated the remaining 360 *sers* at 16 rupees per *ser*. The ambers were valued at 1,760 rupees altogether. In Ekra 4.8 per cent went to the customs-house for precious stones, in all 33 rupees.'

As it can be seen, 4.8 per cent was the *oushour*² levied for the amber and not 38.5 per thousand, as pointed out by Kostand Joughayetsi.

Hovhannes makes no mention of the customs-houses lying on the route from Agra to Patna; he states only the sum total of the duties imposed on his goods: 'From Ekra to Patna together with the Kashmirians and Benares to Patna I alone paid 42 rupees for duty.'

But beginning from Patna he enumerates the taxes exacted from him in the following way: 'The sum total of the precious stones was 8,000 rupees. In Patna the customs-house for precious stones imposed a duty of 0.3 per cent—in all 30 rupees.' Apart from this he has given to the clerk 1 rupee and to the supervisors 3 rupees of tax.

Hovhannes must have hidden his jewels in the customs-house of Danti (he acts similarly in Hajipur, confessing in his ledger: 'I have paid no tax for the amber.' Duty was imposed on him for other commodities. 'At the customs-house in Danti I paid 7 rupees duty for the indigo, calico and other items I had bought in Patna.'

In the settlement of Gnkinpur he has given *hassil*, *nvisandi*, *nafurana* and *zaghat*, totalling 4.05 rupees. These, no doubt, have been small customs-offices. The main customs-house on the border of Nepal and India was, in all probability, to be found in Hajipur. Here Hovhannes pays 16.25 rupees of tax for the goods he takes across the frontier (excluding the precious stones). In this connection he writes in the ledger: 'At the customs-house in Hajipur I gave 16.25 rupees of tax for the 12 *bakoos* of indigo, the calico which I had bought in Ekra and the *kessoor* of Patna.'

¹ The Mashtots Matenadaran, MS. No. 5994, p. 14a.

² The terms, *oushour* and *zaghat*, are synonymous.

More particulars are to be found in the ledger referring to the types and range of taxes and duties exacted; those details were entered after his return from Tibet to Patna. In Patna at the Sultan or Central customs-house the goods brought by Hovhannes from Lhasa are valued at 22,198 rupees (more than 250 kg. of silver) and taxes are imposed on every article. They read as follows:

1. *Hassil*—(a) for the grass (tea ?) brought, 3.5 per cent tax, amounting to 745.3 rupees in all; (b) for *saghadbari*, 1.25 per cent tax; 31.5 rupees in all.
2. *Mootassad duty*—12 rupees.
3. *Tafildar*—3.35 rupees.
4. *Moushrouf*—15.5 rupees.
5. *Eminana*—15.5 rupees.
6. *Darogh*—11 rupees.
7. *Dakhil khazana*—0.55 per cent tax; in all 4.56 rupees.
8. *Nvissanda*—6.75 rupees.
9. *Dalal*—44 rupees.

Thus the 22,198 rupees worth of goods imported to India (250 kg. of silver) have cost Hovhannes 889.46 rupees (10 kg. of silver) of tax, i.e. four per cent of the cost price of the goods.

The data relating to the taxes imposed in Nepal and Tibet, as entered in the ledger, are likewise worthy of mention.

The taxes exacted by the Raja in Kathmandu total 167.3 rupees, including the basic tax, called *benti erok*, for which Hovhannes pays 200 small *mellis*, i.e. 100 rupees in ready money. In addition, as our merchant states: 'I had an English spyglass; the Raja took it and valued at 50 small *mellis*.'

Moreover, apart from the taxes, Hovhannes gives tips to the Raja in Kathmandu, the three *bansars* and the *erna*; the Raja of Badgam, the *pardan* and the two *bansars* into the bargain. He tips them also with various kinds of fabrics (mostly inexpensive), sweetmeats, etc. He gives one length of calico to the official of the local customs-house for measuring the stuffs and some money for taking the goods to the chief for sealing. He makes a present of 2 rupees to the *pardan* of list and gives 2 rupees to the *dev* of Kuti before he gets to Lhasa.

On the third day of Hovhannes' arrival in Lhasa (3rd October 1686), his goods get cleared by the customs-officers of an establishment called Lovran. They tax him the worth of 930 *lanks* (34 kg. 144 g.) of silver in the form of precious stones and other goods for *sarkare*—a sort of tax; they inform him that of this sum 182 *lanks* or the equivalent of 6 kg. 877.7 g. of silver will not be returned while the rest, i.e. 748 *lanks*, will be reimbursed in future (they give him a promissory note to this effect).

On 19th December of the same year Hovhannes in fact gets back those 748 *lanks* (27 kg. 266 g.) of silver. Yet the metal turns out to be debased. After melting and purifying, he incurs a loss of 121 *lanks* of silver. Thus our merchant pays to the government officials in Lhasa for his goods 303 (182+121) *lanks* or 11 kg. 450 g. of silver.

To make the picture of taxes imposed in Lhasa complete we should like to quote the data on the tax named *sokhani*. On various occasions Hovhannes reports that every time one trades a litre of musk, the buyer has to pay one *lank* (37.79 g.) of silver to the state treasury.

The records on duties exacted from tradesmen for imported or exported goods are supplemented by diverse data on other kinds of taxes.

It is known that Aurangzeb (1659-1707) under whose reign our merchant undertakes his travels to India, *jizian*—the poll-tax—was renewed within the Empire in the year 1679 for the non-Mohammedans.

The ledger contains likewise a number of entries testifying to the payment of *jizian*.

On the very first day of his arrival in Surat, Hovhannes, as he puts, 'bought a certificate confirming my paying the poll-tax'.

This record is inadequate in determining the size of the *jizian*, as Hovhannes does not pay the tax but procures a false document confirming his payment which naturally costs him below the charge. In accordance with two entries testifying to the factual cost of *jizian*, this tax has been 3.5 rupees, but in 1688 Hovhannes already pays for himself and for his servant, Poghos, in Patna 9 rupees which means 4.5 rupees of poll-tax *per capita*. There is one more fact concerning the poll-tax levied in Iran (*sarhana*): 'On going ashore I paid my poll-tax that amounted to 5,300 *dians*, the equivalent of 14.3 rupees.' According to Hovhannes one rupee was the equivalent of 370 *dians*, therefore 5,300 *dians* came to 14.3 rupees. It can be inferred from this entry that poll-tax in Iran was three times as much as in India.

To refer to the tax terms one by one is both impossible and pointless. Yet we think it is useful to quote below the alphabetical list of all the tax and duty terms:

- | | | |
|--|---|---|
| 1. <i>Alidandi</i> | 18. <i>Erahtari</i> | 34. <i>Nvisandi</i> |
| 2. <i>Anachi kreh</i> | 19. <i>Eravani kharch</i> | 35. <i>Odi kreh</i> or <i>Kreo-</i> <i>dvayu</i> |
| 3. <i>Barkani</i> | 20. <i>Eressoom</i> | 36. <i>Oushour</i> |
| 4. <i>Benti</i> | 21. <i>Erevanti</i> | 37. <i>Parvankoo</i> |
| 5. <i>Benti naghtini</i> | 22. <i>Hassil</i> | 38. <i>Psoni</i> |
| 6. <i>Benti erok</i> | 23. <i>Inam</i> | 39. <i>Salaki</i> |
| 7. <i>Bolavi</i> | 24. <i>Jezia</i> | 40. <i>Sandeghin kreh</i> |
| 8. <i>Chaputri kharch</i> | 25. <i>Khani</i> | 41. <i>Sarkari zabiti</i> |
| 9. <i>Chookayu kreh</i> | 26. <i>Khoorooch</i> | 42. <i>Sarhana</i> |
| 10. <i>Chokidari</i> | 27. <i>Kotivarchi</i> | 43. <i>Shabandari</i> |
| 11. <i>Dakhili kharch</i> | 28. <i>Manspadarin</i> <i>kharch</i> | 44. <i>Slamati</i> |
| 12. <i>Darasoo</i> | 29. <i>Massali guin</i> | 45. <i>Smbuki</i> |
| 13. <i>Darooghaki</i> | 30. <i>Mootasadoo</i> <i>kharch</i> | 46. <i>Sokuni</i> |
| 14. <i>Darvani</i> | 31. <i>Namaloomi</i> | 47. <i>Tandzilé</i> |
| 15. <i>Eminana</i> | 32. <i>Nazr</i> | 48. <i>Tefildari</i> |
| 16. <i>Erachmalin</i> <i>kharch</i> | 33. <i>Novl</i> | 49. <i>Zaghat</i> |
| 17. <i>Erakhtarana</i> | | 50. <i>Zooloomana</i> |

VI

In order to transport goods from any major administrative centre of state subordination or from any feudal domain or in order to unpack marketable goods, it was essential to have the permission of a government-authorized official or of the local feudal lord which was, of course, issued after levying the proper taxes and climaxed in a special seal that legalized the act.

On his way to Tibet Hovhannes had to wait in Kuti for 10 days for the return of the local ruler (the *dev*) to his residence to seal the bales of our merchant. This is what he says in this connection: 'We stayed in Kuti for 10 days because the *dev* was not in town to seal the goods; then he came and sealed the goods.'

On his return from Tibet, as Hovhannes attests, in Patna 'they locked the goods in a room as the *Daroughan* had gone to Massi. No one has the right to unlock the door until he comes back'.

The state bodies used to put the privilege of selling certain kinds of goods out to contract to private merchants. In Patna, for instance, candle could be sold only at the price fixed by the contractor of that article. This is what Hovhannes writes on this occasion: 'The sale of candle here is patented by a shopkeeper and candle is sold in accordance with the price he fixes.'

During his business transactions that were of long standing, Hovhannes has had dealings with scores of rulers pertaining to the feudal class of the relevant country as well as with various government officials of high and low ranks. He makes no mention of the names of those persons but speaks of them in terms of the position or title they held. If we bring together such entries of the ledger we shall have the following list of titles, ranks and names pointing to the positions held by people engaged in employments related to trade:

- | | | |
|----------------------|-------------------------|-----------------------|
| 1. <i>Baldi</i> | 14. <i>Emin</i> | 27. <i>Nazir</i> |
| 2. <i>Bansari</i> | 15. <i>Eraja (Raja)</i> | 28. <i>Nemo</i> |
| 3. <i>Bari</i> | 16. <i>Erna</i> | 29. <i>Nirb</i> |
| 4. <i>Bolava</i> | 17. <i>Goomashta</i> | 30. <i>Nsep</i> |
| 5. <i>Charvadar</i> | 18. <i>Kansi</i> | 31. <i>Nvicanda</i> |
| 6. <i>Chokidar</i> | 19. <i>Kotval</i> | 32. <i>Pardan</i> |
| 7. <i>Chotersi</i> | 20. <i>Khan</i> | 33. <i>Sardar</i> |
| 8. <i>Dalal</i> | 21. <i>Lama, Lifan</i> | 34. <i>Sarhadar</i> |
| 9. <i>Danti</i> | 22. <i>Mansabdar</i> | 35. <i>Shabandar</i> |
| 10. <i>Darougha</i> | 23. <i>Mooshroof</i> | 36. <i>Tefildar</i> |
| 11. <i>Dev, Deva</i> | 24. <i>Mooki</i> | 37. <i>Valapdas</i> |
| 12. <i>Doonila</i> | 25. <i>Mootasadi</i> | 38. <i>Zaghatvali</i> |
| 13. <i>Doosat</i> | 26. <i>Navab</i> | 39. <i>Zhoon</i> |

VII

The specialists of Indian history are at one in their views of the systems of bills and commercial loans being widespread in the mediaeval period of that country, particularly under Akbar (1556-1605). The remittance of large sums of money through bills from one place to another and other bank operations were effected with such skill that they provoked the wonder of European merchants visiting India.¹ Reading the numerous facts in Joughayetsi's ledger of the remittance of money, interest loans and other business transactions, we can observe the same picture during the reign of Aurangzeb.

Hovhannes and the other Armenian tradesmen connected with him took very little ready money during their travels, the basic capital being put into circulation, and when the need for transfer of money from one place to another rose they made use of the bill of exchange, current in the East.

Let us get familiar with some of the entries made in the book to this effect:

1. 'On the 8th of the month of Nadar, Mr. Avetik transferred my 1,000 rupees to Kherabad paying 1 per cent remittance charge; in all 10 rupees.'

¹ K. A. Antonova, *Očerki obščestvennyx otnošeníi političeskogo stroya mongol'skoj Indii, vremen Akbara (1556-1605)*, Moskva, 1962, p. 121; N. K. Sinha, A. Č. Banerdži, *Istoriya Indii*, Moskva, 1954, p. 250.

On the eve of his departure to Tibet, he transfers from Agra to Patna 1,000 rupees to a shroff and writes in this connection:

2. 'I have transferred 1,000 rupees from Ekra to Patna; this is also evidenced by Mr. Avetik's accounts. Remittance charge was 1.275 per cent; in all 13.5 rupees.'

3. 'On the 14th of the month of Ghamar, Hovhan of Shiraz made from Surat a transfer of 1,000 rupees in my name to Mr. Avetik for a period of 41 days. The remittance charge was 4.5 per cent, i.e. 45 rupees in all.'

4. 'On the 3rd of the month of Ayram in Ekra, through the middle-man of Birju, I made a transfer to Surat (in Nazaret's name) of 3,250 rupees. I paid remittance charge of 8 per cent of the transferred sum which came, in all, to 260 rupees.'

It becomes evident from other entries as well that remittance of money (*yendvi*) was effected through shroffs, middle-men, also through people pertaining to the upper layer of the feudal class (for instance, through Murat Khan of Kairabad). Those engaged in money transfers had their representatives in various cities. Thus, for example, Hovhannes has received 50 rupees on account of the money transferred to Patna, from the Benares office of the establishment that had effected the transactions. There was no fixed charge for money transfers; it was arranged by mutual agreement taking into account the distance of the place where the money was to be remitted, the safety of the way, the amount of the money and other circumstances. The remittance charge in the first of the foregoing entries constituted one per cent of the sum total, while in the second 1.275 per cent, in the third 4.5 per cent and in the fourth 8 per cent.

In money transactions carried out through bills, three men used to take part: the remitter, the remittee and the payer. As attested by the ledger, many more complicated money transactions were in operation in India in which more men participated. An instance of similar transaction is afforded, for example, by the fourth entry we have quoted according to which the 3,250 rupees transferred by Hovhannes from Agra to Surat is first remitted to the middle-man of Birju who in turn writes a *yendvi* to Nazaret in Surat thanks to which the latter becomes entitled to the sum in Surat from the '*kota* of Valabdas'.

There is another entry to this effect of greater consequence:

'On the 1st of September 1683, I wrote to Mr. Avetik in Agra to transfer 1,000 rupees from my sum to Kairabad to buy *dergazi* for me and let me know so that I should pay the sum here in Srinj. In this connection Mr. Avetik has written that he had sent those 1,000 rupees to Kairabad, and that I should pay the sum to Aghazar to make purchases for me.'

Accordingly Hovhannes gives Aghazar in Sironj 1,000 rupees. Mr. Avetik, who was at the time in Agra, remits on behalf of Hovhannes the same sum to Kairabad so that another man should get the sum there and buy for him the fabric called *dergazi*. Thus, at least five persons participate in the transaction—Hovhannes, Aghazar, Mr. Avetik, the transferor of money from Agra to Kairabad and the receiver of the money in Kairabad.

The ledger also discloses many facts on the use of the simple bill of exchange. During his stay in India (1683-86) Hovhannes borrows interest-bearing money from different persons and on three occasions he lends money himself. A study of the numerous entries relating to this topic shows that the simple bill of exchange provided for 0.75 per cent interest a month of the sum lent.

This low rate is presumably to be accounted for by the fact that both giver and receiver of money were mutually connected with various transactions and must have had economic expectations from each other. It should be realized that in entering upon such transaction they resided in the same country, often in the same city, therefore the money giver did not entertain any fear as to the sum being remitted in time and in full.

It should be pointed out that the Armenian merchants trusted each other and the local merchants, the middle-men and the shroffs, and helped each other as much as they could. The following fact is noteworthy: On 13th October 1684, in the city of Amdanagor our merchant gives 1,800 rupees to Baba, son of Panos, at 0.75 per cent interest a month, provided he should get the sum back in Agra in 41 days. In effecting this transaction Baba gives no bill to Hovhannes: 'You go now and I'll send the bill to Aurankapat.' And, in fact, as Hovhannes remarks, 'when I came to Aurankapat the receipt was there'. It is also interesting to note that on 27th November 1692, Hovhannes willingly pays to Manvel his debt of 200 rupees though the latter had lost the receipt.

The terms of the loan changed and the interest rose considerably if the giver or receiver embarked upon a transaction on the eve of his departure from the country, for this meant running the risk of a casual loss. This type of transaction is given the name of *avak* in the ledger. Let us get some knowledge of this form of transaction by two illustrations:

On 25th April 1684, Hovhannes borrows 50 rupees from Trikam, a middle-man, at 0.75 per cent interest a month. It turns out, however, that Hovhannes borrows this sum not for his own needs, but in order to lend it to Shambetsi Gaspar (at an interest of 27 per cent) who was leaving Surat for Isfahan. He writes the following on this occasion: 'On the 24th of the month of Shams I gave Shambetsi Gaspar 50 rupees of *avak*¹ at the interest of 27 per cent; the net profit came to 13.5 per cent. The sum lent together with the interest is 63.5 rupees; with 27 rupees making 1 *tuman*, the sum came to 2 *tumans* 3,500 *dians*. I enclosed the receipt in the letter I sent to my masters in Isfahan so that they should get the sum from him. I sent the letter through the medium of Topchents Markos.'

On other occasions Hovhannes becomes the borrower in Surat of a high-interest loan from the same Topchents Markos who was leaving for Isfahan and from Toomajan, son of Atom of Van, who was going to Basra. At least one of his entries on the subject is worth quoting:

'On the 21st of the month of Shams (Azaria Style) I borrowed an *avak* of 1,000 rupees from Markos, son of Topchents Poghos, in Bandar-Surat provided I should pay in Isfahan with an interest of 26 per cent. The *avak* borrowed was 260 rupees. The loan with its interest came to 1,260 rupees. I signed a liability at the rate of 27 rupees per *tuman* pledging that 105 days after I arrived on board the *Slemanî* in Bandar-Abbas he got entitled to the sum of 46 *tumans* 6,660 *dians*, to be reimbursed by my masters in Isfahan.'

Of similar content is the entry concerning the *avak* borrowed from Toomajan of Van with the only difference that in the latter case the profit forms 20 per cent of the sum total and the payment is to be made by Hovhan of Shiraz, in Basra at the time (whom we have already met), who was in friendly relations with Hovhannes.

¹ *Avak* is the name given to money borrowed from a resident of another country.

VIII

The controversies and disputes of the Armenian merchants from Nor Jougha were discussed and settled by the *Kalantar*¹ in Nor Jougha and the instance called the 'Assembly of Tradesmen'. 'The subject of dispute', writes H. Ter-Hovhanyants in this connection, should be presented to the assembly of tradesmen in written form, where after carefully weighing up the pros and cons of it, the resolution was to be written on the same application with the following words: 'The resolution of the assembly of tradesmen is as follows—our judgement of the case is the following—.'²

However, the Armenian merchant from Jougha used to spend most of the time away from his native country, wandering in the remotest corners of Europe and Asia in pursuit of private gains:

'The merchant of Nor Jougha wanders with zest
In every nook and corner of East and West'

writes, on this occasion, Bagher-Oghli,³ the favourite bard of the inhabitants of Nor Jougha.

Now what were the ways in which the disputes among the merchants of Nor Jougha were settled or their relations adjusted under foreign skies. These problems are also referred to in the ledger of our merchant.

When we bring all those facts together we arrive at the conclusion that in all cases the Armenian merchants preferred to make their attitude clear or settle their disputes on the instructions and advice of the *Joomiat*—the local Armenian community. If in a particular spot the number of Armenian merchants were small they invited foreign tradesmen to take part in the discussion of the controversial item (for instance, the Kashmirians in Lhasa). In exceptional cases alone, when all the above-mentioned ways of settling the dispute proved fruitless, did they apply to the local courts.

Let us turn now to those entries in the ledger that throw light on this set of problems.

We know already that on the eve of his departure from Tibet our Hovhannes gets a large amount of amber valued at 7,760 rupees. He ventures upon a responsible commitment when the obligation is undertaken before the *yuzur* of *Joomiat*, i.e. in the presence of the Armenian merchants of Agra.

We have already seen that Hovhannes takes two servants into his service on his way from Agra to Tibet. One of them, Ghalmash Petros, after discharging his duties for eight months, leaves the job in Lhasa. The contract envisages a salary of 40 rupees a year; therefore he was to get 25.5 rupees for eight months of service. A few days after the payment Hovhannes makes the following entry in the ledger: 'When servant Petros left my service I paid him his due in full. Considering the matter, the assembly of tradesmen and the Kashmirians adopted a resolution according to which I was to recover the sum for hiring a horse from Kuti to Ziguicha. Thus I recovered 3 *lanks* 10 *shahis*.' There is no doubt that the question

¹ *Kalantar* is the bailiff of the Armenian community.

² *The History of Nor Jougha a suburb of Isfahan*, Vol. I, p. 183. The author also notes that many applications of merchants with resolutions of the assembly of tradesmen written on them are kept in the archive of the monastery of Amenaperkich in Nor Jougha. The publication of those valuable documents would prove a great help to those studying Armenian commercial law; therefore it is to be hoped that scholars in Nor Jougha would spare no efforts to fulfil this gratifying labour.

³ *Ibid.*, p. 160. Also H. Sahakian, *The Armenian Bards*, Yerevan, 1961, p. 117.

of the salary of Ghalmash Petros came before the assembly of *Joomiat* and *Kechmercots* on the initiative of Hovhannes himself, and the servant was made to return 40 per cent—10 out of the 25 rupees—he had earned by strenuous labour during the eight months.¹ By the end of April 1690 heated discussions flare up in Lhasa between Tsatoor, son of the pilgrim, Ghoukas, and our Hovhannes on two different matters. There are still dark points and undeciphered particular words in the entries concerning those controversies, yet the contents of the record are generally clear.

One of the reasons for the clash is as follows: some government instance passes a *kata* (resolution), one for Tsatoor and another for Nikoghos and a third for Hovhannes, whereby the data concerning the goods bought by the three merchants and their prices were apparently certified. In the resolution of Nikoghos instead of 128 *lanks* 8 *miskalis* as the cost price of tea, 228 *lanks* 8 *miskalis* were written, that is 100 *lanks* more (3 kg. 779 g. of silver). Tsatoor protests for the mistake laying the blame on Hovhannes.

The next reason occasioning the clash is simpler. As early as on 22nd December 1686, Hovhannes had given silver to Melijan 'to be recovered in gold after a year'. Under the agreement Melijan was to send gold in several settlements to Hovhannes from the Chinese city of Sini (Slink). In connection with the 11 *lanks* of gold (415.69 g.) received from Melijan on 17th April 1688, a quarrel flares up between Tsatoor and Hovhannes. Tsatoor maintains that 9 out of the 11 *lanks* of gold are his. The arguing sides apply to the Jong² that orders to reveal the truth by casting dice: 'An order was delivered by the Jong to cast dice.' Hovhannes dices away and the question is settled in favour of Tsatoor.

The scholar who makes a study of the court in Tibet and the mediaeval legal status of this people will find interesting the large section in the ledger elucidating those problems. The last paragraph of this section reads thus: 'On the 8th of the month of Adam, this Satan (i.e. Tsatoor) got deluded by the devil, put an amulet in his bosom and, bewitched by some lama, cast the dice and won the lot.'

Hovhannes admits not only his defeat but also pays the fines imposed on him by the court.

¹ The author of the ledger has failed to be fair to his other servant (Poghos) either. After serving for 21 months in Agra he, too, comes out of his service and gets his due. But Poghos had also left his own money with Hovhannes (12 rupees). The latter had bought goods in Patna in his behalf. Now, Hovhannes gives back to his former servant not the goods (that might be sold in Lhasa with a profit of 100 per cent) bought with the money of Poghos but only the sum (12 rupees) which he had received from Poghos in Agra.

² In Lhasa Hovhannes has also a row with Melijan, son of Poghos. Our merchant had consented to his debt to Melijan being paid off partly in goods and partly in ready money. However, wishing to clear off his debt in goods alone, Melijan brings an action against Hovhannes. The latter comments this in the ledger as follows: 'He (Melijan) did not agree and applied to the *dev*', and goes on, 'the *dev* resolved to recover the debt half in ready money and half in goods.' Thus in the case of Tsatoor a certain Jong assumes the role of a judge while in the latter case the *dev*. To our knowledge the Dalai Lama, embodying the religious and temporal authorities of Tibet, is to be identified in both names. It is established that the supreme authority of the great Lama was phrased in colloquial speech as Deva Jong and it is precisely the constituent elements of this name—Deva and Jong—that have found room in the ledger in the transcription *dev* and *jong*. For Deva Jong and the ecclesiastical and temporal officials of Tibet, see B. A. Graham Sandberg, *Handbook of Colloquial Tibetan* and *A Practical Guide to the Language of Central Tibet*, Calcutta, 1894, pp. 188–92.

IX

The ledger of Hovhannes, son of the priest David, would be of lesser value if the terms expressing the units of coins, weights and measures in use in those days and countries were not provided with equivalents of the metric system.

Fortunately, reliable data are to be found in the commercial diary under consideration as well as in the *Manual for Trade* by K. Joughayetsi and *A Useful Book on Measures, Weights, Figures and Monetary Units* compiled by GH. Vanandetsi, based on the same manual.¹ They enable us to ascertain the metric equivalents of some scores of money and measure units in use in Iran, India, Nepal and Tibet by the end of the seventeenth century. Thus the ledger turns into a reference source on numismatics and metrology.

The basic monetary unit in Iran during the business activities of Hovhannes was the *Abbasi* (which under Shah Abbas I was minted in coins of 8.5 g. each). According to data mentioned in the above-given work of GH. Vanandetsi, an *Abbasi* contains 9.5 *danks*, i.e. 7.48 grams of silver. Therefore the smallest monetary unit of Sefian Iran the *dian* was 1/200th part of the *Abbasi*, weighing 0.037 grams of silver, while the *tuman* (1 *tuman* = 50 *Abbasis* = 1,000 *dians*) was the equivalent of 373.9 grams of silver. At the close of the seventeenth century the rate of exchange of the Iranian coin undergoes a gradual devaluation when coins minted with metals of lower standard were put into circulation in large numbers. Referring to E. Pakhomov's data, the standard of *Abbasi* ranged, at the close of the century, between 7.30 and 7.40 g., but there must have been *Abbasis*, *Mahmudis* and other coins of lower denomination. The data treating of this topic in the ledger seem to be of interest. He writes that on his way to India the chief of the port in Bandar-Abbasi would not take from him the sum amounting to 5 *tumans* 5,000 *dians* which comprised *Abbasis* and *Mahmudis* (2 *Mahmudis* = 1 *Abbasi*): 'The money I brought from Shiraz comprised 5 *tumans* 5,000 *dians*, *Abbasis* and *Mahmudis*. The chief of the port would not take the money. I gave the sum incurring a loss of 600 *dians* per *tuman*. Thus my loss totalled 3,300 *dians*.' It can be deduced therefrom that the *Abbasis* he possessed did not exceed 7 grams.

The devaluation of Iranian coins is also attested by data on the ratio of *Shahijani*-rupee (containing 11.33 grams of silver) and *tuman* or *dian*. Accordingly 27 *Shahijanis* equal 1 *tuman* or 1 *Shahijani* is the equivalent of 370 *dians*. Evidently, one can infer from those facts the *tuman* was in those days the equivalent of 306.4 grams of silver and the *dian* was correspondingly 0.03 grams of silver.

Hovhannes speaks of his business transactions on the Indian frontiers in terms of a money unit called *Shahijani* which was, in fact, the rupee minted by Shah-Jahan (1627-58). On several occasions he writes simply 'rupee' for *Shahijani*. The weight of the rupee is to be found in K. Joughayetsi's *Manual for Trade*: 'One rupee contains 2.5 *miskalis* minus half a *massa*, while half a *massa* comes to 2.5 *ghirets*.'²

Miskali was the equivalent of 4.724 g.; *ghiret* 0.196 g. Accordingly 1 rupee = $(2.5 \times 4.724) - (2.5 \times 0.196) = 11.81 - 0.49 = 11.32$ grams of silver.

The ledger contains several scores of various accounts that bear out the data of the *Manual for Trade* relating to the weight in silver of one rupee, with a negligible addendum of 0.01 g. Thus it can be certainly

¹ Published in Amsterdam in 1699.

² The Mashtots Matenadaran, MS. No. 5994, p. 126.

stated that in the years when Hovhannes was having his dealings, the equivalent of the Indian monetary unit, the rupee-*Shahijahani*, was 11.33 g. of silver.

In addition to the *Shahijahani* rupee there were others in circulation: *bazari shahi*, *Ovrankshahi*, *chalni* and *ilai*. The data in the ledger also throw light on the silver weight of the various rupees.

The current basic monetary unit in Nepal was called small *melli*. Hovhannes writes: 'Raja's monetary unit of the locality (i.e. Kathmandu) is the small *melli* which amounts to half a rupee.' The ledger contains many indications that confirm the 2:1 ratio of the small *melli* and the rupee.

There was also a copper coin, called *dam*, in circulation in Nepal. According to Hovhannes '119 *dams* make one small *melli*'.

Tibet had no currency. Trade was carried on either by exchange of commodities or in ingots of silver and gold. Data on barter, that are numerous in the ledger, are characteristic of the low economic standard in Tibet. The goods Hovhannes offered in exchange were mostly precious stones (amber, seed-pearls, etc.). He got in return musk, thread and textiles.

The basic weight unit of silver and other goods was here the *lank*, the weight of which can again be established in terms of the metric system if we turn to the foregoing reference sources where the data are recurrent and complementary.¹ Accordingly, *lank* or *tank* equals 37.79 g.

As huckstering in Tibet was carried out in the main in ingots of silver, the standard of the metal was of great significance, and often silver of low standard was in circulation. The merchant should be on the alert not to be cheated in ingot silver of low standard. And our experienced merchant was not in all cases up to the mark; he sustained losses especially when he had dealings with state bodies. We have already mentioned that upon melting, of the 430 *lanks* of silver Hovhannes had received from the customs-house in Lhasa, 62 *lanks* were lost.

The state bodies forced the people to take debased metal, but when receiving they exacted silver of the highest standard. Hovhannes' friend Nikoghos should pay 7 *lanks* 2 *miskalis*, the fee of hiring four pack animals, to a government establishment called *sarkar* (this was probably the name given to an institution in Tibet engaged in commercial activities). It was Hovhannes who pays off the debt and writes in this connection: 'I gave them high-standard silver; they made it red-hot three times and melted it twice; 6 *miskalis* were lost.'

Another entry of this kind by Hovhannes is also worthy of mention, according to which the officials of the same *sarkar* in Lhasa 'give the silver less but require more'. He speaks of this in greater detail in another chapter of the ledger: 'Since two types of weights are used in the *sarkar*; when receiving the heavier weights are placed on the scales, when giving the lighter ones.'²

Concerned over the fate of the low-standard silver in hand, the merchants often tempered it with silver of higher standard or raised the value by melting and purifying. Hovhannes remarks on one occasion: 'The

¹ Cf. The Mashtots Matenadaran, MS. No. 5994, p. 15a; cf. *A Useful Book on Measures, Weights, Figures and Monetary Units* by GH. Vanandetsi, Amsterdam, 1699, p. 17.

² Similar counterfeiting was also done by the British officials of the Eastern India Company, residing in Calcutta. In one of his last entries Hovhannes reports: 'I sold all the *soopons* I had to the English by the market weights which, I was told, came to 12 *sers*, but they must be more.'

silver was debased. I gave better quality silver to Nikoghos for tempering.' On another occasion he notes that the 20 *lanks* of silver 'tarnished. I melted and one *lank* was reduced; 19 *lanks* were left'.

The sale and purchase of gold was effected in Tibet and its neighbouring countries by such units of weight as *sookam* and *seva* and *massa* as well as *goormoo*. If we come to compare the prominent facts of our merchant with relevant data in other sources of reference, the metric equivalents of the mentioned weights also become evident.¹

The gold casts were brought to Lhasa largely from the Chinese city of Sinin (Slink). As to standard the casts were of three types: *pana* or *varagh*, *khamser* and *joonser*. The standard of the gold used is always indicated in the ledger: 'The gold of Matos that has come to me in the form of *pana*, *khamser*, *joonser* are all noted down separately; the total sum comes to 874 *sookams* 0.5 *seva*.'

Pana gold weighs 167 *sookams* 14 *sevas* ;
Khamser gold weighs 520 *sookams* 16.5 *sevas* ;
Joonser gold weighs 185 *sookams* 10 *sevas*.

Pana was the highest standard of gold and *joonser* the lowest. *Khamser* was the middle and the most numerous.

We are unable to determine the rate of pure gold in those casts yet the data available make it possible to give a rough estimate of their price levels. In this respect one among a number of entries is of particular interest. Hovhannes enters the weights of the gold casts of the late Matos taking down at the same time the cost price of each of them in rupees per unit (in *tola*, in the given case).

Accordingly,

One *tola* of *pana* is 12.75 rupees;
 One *tola* of *khamser* gold is 12.05 rupees;
 One *tola* of *joonser* gold is 11.55 rupees.

Thus, if we take provisionally one unit of high-standard *pana* gold for 100, the proportional value of *khamser* and *joonser* will be respectively 94.5 and 90.5, according to the given data.

In order to bring forth the economic and historical value of the hundreds of entries in the ledger concerning the sale and purchase of various goods, it is also essential to identify the metric equivalents of the remaining measures.

For this we have again to resort to K. Joughayetsi's *Manual for Trade*: 'When one buys indigo in Khoorji, Hndvi and elsewhere, the bargain is effected by a litre called *akpar* which equals 40 *sers*; one *ser* = 30 *pesabars*; one *pesa* = 4.5 *miskalis*; one *akpar* litre is thus 5,400 *miskalis*.'²

Relying on these data the metric equivalents of the measure units in Hovhannes' ledger become readily discernible.

Thus

Miskali (*ajamstana*) = 4.724 g.
Pesabar = 21.258 g.
Ser = 637.74 g.
Akpari litre = 25 kg. 509 g.

The litre called *ajamstana* or *shahi* in Sefian Iran has also been in common use (weighing 5 kg. 888 g. and called also *man*). Other measure

¹ See the list of coin and measure units on page 181 in alphabetical order.

² The Mashtots Matenadaran, MS. No. 5994, p. 13a; cf. *A Useful Book on Measures, Weights, Figures and Monetary Units* by GH. Vanandetsi, Amsterdam, 1699, p. 16.

units have likewise been used particularly for precious stones (*darni*, *dolna*, *erati*, *tan*, *manchan*, *tank*, etc.) the weight of most of which can also be specified through comparative data in our ledger and other sources.

Without going into details, we quote below the list of monetary and measure units used by Hovhannes in his ledger, marking against each unit the metrical equivalent which is checked by numerous cross-references and is, for the most part, reliable and authentic:

1. *Bazari shahi*—a rupee below the mark; 10.54 g. of silver.
2. *Chaku*—the weight uncertain.
3. *Chalni*—a rupee below the mark; 11.10–11.16 g. of silver.
4. *Dam*—small copper coin (119 *dams* make one small *melli*).
5. *Darni*—1/24th part of *chaku* of uncertain weight.
6. *Dian*—a small unit of the Iranian monetary system, the equivalent of 0.037 g. of silver.
7. *Erati*—1/96th part of *tola*; 1/8th part of *massa*; 0.18 g. in weight.
8. *Erati* (in Patna)—0.15 g. in weight.
9. *Foon*—1/10th part of *gaturi miskali*; weighing 0.37 g.
10. *Ghitr* (litre) *ajamstana* or *shahi*—weighing 5 kg.
11. *Ghitr* (litre) *akpari*—weighing 25 kg. 509 g.
12. *Ghitr* (litre) *Tehrani*—weighing 2 kg. 944 g.
13. *Ilayi*—a rupee below the mark; 10.92–10.85 g. of silver.
14. *Kakas*—weighing 1.26 g.
15. *Kal*—1/12th part of *sookam*; weighing 0.42 g.
16. *Kanua*—1/16th of *pakaser*; weighing 53.14 g.
17. *Lank*—weighing 37.79 g.
18. *Litre*—(see *ghitr*).
19. *Mahmudi*—half an *Abbasi*.
20. *Manchan*—weighing 0.29 g.
21. *Marchil lakri*—European gold coin, the equivalent of 24.93 g. of silver.
22. *Marchil flori*—European gold coin, the equivalent of 24.60 g. of silver.
23. *Massa*—1/12th part of *tola*; weighing 1.01 g.
24. *Massa nepali*—weighing 1.21 g.
25. *Miskali ajamstana*—weighing 4.72 g.
26. *Miskali gatoori*—weighing 3.78 g.
27. *Negha*—weighing 2.51 g.
28. *Ovrankshahi*—a rupee below the mark; 11.12 g. of silver.
29. *Pakaser*—weighing 850.32 g.
30. *Pesabar*—weighing 21.26 g.
31. *Rupee*—the silver coin of India; 11.33 g. of silver.
32. *Ser*—1/40th part of *akpari ghitr*; weighing 637.74 g.
33. *Seva*—1/20th part of *sookam*; weighing 0.25 g.
34. *Shahinshahi*—the same as rupee.
35. *Small melli*—the silver coin of Nepal, half the cost of the Indian rupee (5.66 g. of silver).
36. *Sookam*—weighing 5.06 g.
37. *Tan*—0.18 g. in weight.
38. *Tank*—(see *Lank*).
39. *Tank*—weighing 16.21 g.
40. *Tola*—weighing 12.15 g.
41. *Tola nepali*—weighing 14.56 g.
42. *Tuman*—the large unit of Iranian monetary system, containing 10,000 *dians* or 50 *Abbasis*.

X

Now let us dwell on the measures of length.

In order to understand and properly appreciate the first entry of Hovhannes Joughayetsi, one must find out the equivalent in the metric system of the length of measure called *gaz*. In this entry the merchant says: 'I have got 18 pieces of red and green narrow broadcloth; in all 726 *gazes* 6 *grehs*.'

Until now various lengths of measure called *gaz* (from 63.5 cm. to 112 cm.)¹ are in use in different parts of Iran. It is certain that many varieties of *gazes* were made use of in mediaeval Iran. Fortunately, we know from another entry in Hovhannes' ledger that the broadcloth he would take to India was measured by a length called *shahi gaz*. That *gaz*, which was also used half a century before that in Iran, was 101.6 cm. as a unit measuring the length of woollen cloth.² This evidence from recent sources is upheld by the important statements of Kostand Joughayetsi and Ghoukas Vanandetsi. The first of these says: '100 *shahi gazes* = 150 Aleppo *gazes*'; the second puts it in a similar way: 'one *shahi gaz* = 1.5 Aleppo *gazes*.'

The length of the Aleppo *gaz* is, according to F. I. Guter, 67.733 cm.,³ therefore one and a half *gazes* of Aleppo come to 101.6 cm. ($1.5 \times 67.733 = 101.6$ cm.).

The English broadcloth Hovhannes takes from Isfahan to India is sold by *Shahijahani* or *lashkari gaz* that differs from the one called *Shahi* or *Shahijahani*. The rates of those lengths are revealed in one of the entries which reads as follows: 'The broadcloth I have brought from Isfahan turned out 726 *gazes* 6 *grehs*. The broadcloth sold twice in India comes to 774.25 *gazes*; 47 *gazes* 14 *grehs* or six per cent more than the previous measurement.'

Now, if 100 *shahi gazes* were equal to 106 *Shahijahani* or *lashkari gazes*, then one *Shahijahani gaz* should equal to 95.85 cm. Thus,

The length of *shahi gaz* is 101.6 cm.;

The length of *Shahijahani* or *lashkari gaz* is 95.85 cm.;

The length of Aleppo *gaz* is 67.73 cm.;

Every *gaz* is made up of 16 *grehs*, every *greh* of two *pais*.

Apart from the established units of measure and weight in other fields of trade and economy such units of measure and weight were also used that were not permanent units. A number of terms were also in use that indicate that the sale of certain commodities was in pairs or otherwise. Hovhannes Joughayetsi has also made use of various similar terms.

In the entries treating of the sale and purchase of textiles, most of all we come across the term *tan*. Judging by some of the hints in the entries we can incontrovertibly state that *tan* is not a measure of length but a length of clothing. See, for instance, the excerpts quoted herewith: 'He had written ordering a suit of white woollen cloth; I have done it. He gave one *tan* of striped cloth to Hovhannes meant for a suit.'

But what particular measure fitted into the length of a suit? In a number of consecutive entries Hovhannes reports on such fabrics as *kuchi* and *makhmoor*; in one case 1 *tan* meant 15 *kaghams* (a measure of length)

¹ See Spravočnik mer. naučno-issledovatel'skiĭ institut ministerstva trgovli Soyuza SSR, Vneštorgizdat, Moskva, 1956.

² F. I. Guter, Cravnitel'nye tablitsy (izloženie monetnyx, merovyx i vesovyx sootnošeniĭ vsex stran sveta...), pyatoe ispravlennoe i dopolnennoe izdanie, Riga-Laĭptsig, 1911, p. 27.

³ *Ibid.*, p. 28.

while in the others 17, 18, 19 and 20.5 *kaghams*. It is clear, therefore, that the length of the *tan* was related to the purpose of the cloth and perhaps its breadth and kind too. We believe, nevertheless, that *tan* was taken to mean the measure of a stuff 4.5–5 metres long. The following entry serves the basis for such assumption: 'On the 18th–20th of the month of Dama (Azaria Style) I bought 600 *gazes* of white-washed *gazi*. Of this, 4 *gazes* 14 *grehs*, i.e. 1 *tan*, I used for suit.'

The deal is arranged in India, so that the mentioned *gazi* must be that of *shahijan* (95.85 cm.): therefore one length for a kind of suit called *chain* comprised the length of just over 4.6 metres. There are also data indicating the length of the *tan* being five metres.

The sale of indigo, musk and tea is prominent in the dealings of Hovhannes.

A measure called *charm* has been used in trading in indigo. Now what was the capacity of that measure? The merchant himself states: 'One *charm* of the indigo we have bought in Khurja is the equivalent of four litres.' If the litre mentioned here is to be regarded as the *akpar* litre, the 92 *charms* of indigo Hovhannes buys jointly should be taken for about 10 tons which is somewhat incredible. Then he must have had his deal with the *ajamstana* litre that is the equivalent of 5.888 kg. Accordingly, he buys in all 2,166 kg. ($5.888 \times 4 \times 92$) of indigo of which 376 kg. (16 *charms*) were his own.

His bargains of tea and tobacco are entered in the ledger by the unit of measure called *baghcha* (bundle), the approximate weight of which becomes manifest through the following entry: 'I have bought 22 *baghchas* of tea, each bundle 12.5 *miskalis*; 10 bundles of various sorts of tea I have sold at 12 *miskalis* each.'

It follows that one *baghcha* can hold 12–12.5 *miskalis*, i.e. 45–47 g. of tea. The same result is arrived at when comparing other data on the sale and purchase of tea, elsewhere in the book.

As we know Hovhannes takes from Lhasa about 42.155 kg. of musk, bought by *nafas* (such was the name given to the aromatic navel of moschus or musk-deer). The numerous entries in the ledger indicate that the navel has weighed about 50–60 g.

Sacks of varying capacities have also been in use along with other units for commodities sold by the piece. Being unable to refer to all of them one by one, we quote herewith the alphabetical list of the measures of length and the related units of weight used in the ledger:

1. *Baghcha*—a small sack, holding 45–47 kg. of tea.
2. *Chot*—a cloth, wrapping.
3. *Charm*—a sack, holding about 23 kg. of indigo.
4. *Chokra*—eight pieces of commodities.
5. *Dzern*—a measure of length.
6. *Dolna*—a set.
7. *Gaz shahi*—101.5 cm.
8. *Gaz Shahijahani* or *lashkari*—95.85 cm.
9. *Gaz of Aleppo*—67.73 cm.
10. *Jor*—two pieces of commodities.
11. *Kagham*—a measure of length.
12. *Kal*—a sack; 20–24 *kals* make up one load.
13. *Khak*—bale (one bale could hold 124–62 *tans* of clothing).
14. *Kham*—a sack containing about 27.5 kg. of goods.
15. *Kissak*—a wallet.
16. *Koori*—twenty pieces of commodities.

17. *Nafa*—the navel of the musk-deer used in weighing about 50–60 kg. of musk.
18. *Sandoogh*—a small box.
19. *Tan*—one length of clothing 4·5–5 metres long.
20. *Top*—a fabric for wrapping textiles (according to one entry a top comprised 14 metres of cloth).

XI

The ledger of Hovhannes, son of the priest David, is also an inestimable source as far as the history of book-keeping and economy is concerned. It is beyond the scope of this subject and our abilities to give a description of the system of book-keeping Hovhannes has had recourse to. This topic is likely to be taken up by our economists in view of the fact that this mode of compiling the ledger endorsed by the Armenian merchants in Nor Jougha found, at a later date, wide application in many Armenian colonies. A great many Armenian merchants in Astrakhan, Moscow and numerous other areas compiled their commercial *roozlama* (diary) that way.

In order to give some notion of the form and way in which the ledger was framed we publish below a brief excerpt from it. With the aim of giving a clear picture of the contents we should like to dwell in brief also on the system of figures used by Hovhannes, which is unusual to us, yet well known in his days.

Our merchant is well versed in Arabic numerals and makes no error in their usage. Thus, for instance, he writes:

‘I have spent in all 311 small *mellis*.’ On the left-hand side of the line the small figure is noted down in Armenian letters ԳՃԱ \equiv (the strokes mark the fraction).

The Arabic numerals are used particularly in those pages of the ledger where data relating to the sale and purchase done in Lhasa by *lank* and *miskali* are entered. The left margin of those recordings displays the sum of the *lank* in Armenian figures while the *miskali* account, that forms a decimal part of it, is given in Arabic figures.

However, the Arabic numerals are so infrequently used that they are almost unnoticed. Our merchant keeps his account referring largely to a variant of the system of letters of the Armenian alphabet (used to designate the years) which is very likely to have been compiled by Kostand Jougha-yetsi and taught to his pupils specializing in trade.

The system of figures commonly used in Armenian ancient and mediaeval manuscript writing is expressed in the table given below:

| | | | | | | | | | |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <i>Digits</i> | Ա | Բ | Գ | Դ | Ե | Զ | Է | Ը | Թ |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| <i>Decimals</i> | Ճ | Ի | Լ | Խ | Ծ | Կ | Ն | Չ | Ղ |
| | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| <i>Centesimals</i> | Ճ | Մ | Յ | Ն | Զ | Շ | Չ | Պ | Ղ |
| | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 |
| <i>Millesimals</i> | Ի | Ս | Վ | Տ | Ր | Ց | Խ | Փ | Գ |
| | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | 6,000 | 7,000 | 8,000 | 9,000 |

In the ledger the sets of digits and decimals are used invariably, yet the centesimals and millesimals are applied variously. Hovhannes never

writes, say, Շ (500), Զ (900), 11 (2,000) or Գ (9,000) but those numbers he invariably expresses as ԵՃ (5×100), ԹՃ (9×100), ԲԻ ($2 \times 1,000$), ԶԻ ($6 \times 1,000$). Accordingly the number 3,476 which might be expressed as ԳՆԼԶ, he always writes as ԳՆԻԴՃԼԶ. The millesimal figures are always marked on top by two slightly oblique strokes while the centesimals, decimals and digits have one horizontal line above them.

If in writing any four-, three-, or two-digit figure by the Arabic system a zero was to be inserted, Hovhannes uses a point which is common in the East. Thus,

$$\overline{\text{ՆԻ}} \cdot \overline{\text{ԻԲ}} = 1,022;$$










$$\overline{\text{ՆԻ}} \cdot \overline{\text{ԲՃ}} \cdot \overline{\text{Բ}} = 1,202;$$

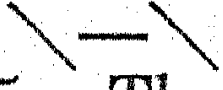

$$\overline{\text{ՆԻ}} \cdot \overline{\text{ԲՃ}} \cdot \overline{\text{Ի}} = 1,220.$$

The marking of fractions is very interesting.

Our reader should have taken notice of the vertical and horizontal strokes that lie to the right of most figures quoted from the ledger. Thus, ԺԼ \, ԻԲ \, =, ԼԵ \, = \, and so on. These are the fractions which are deciphered in the table given below:

TABLE

| Signs of fractions | The equivalent of the sign in fractions | The equivalent of the sign in decimal fractions |
|--|---|---|
|  | 1/4 | 0.25 |
|  | 2/4 | 0.05 |
|  | 3/4 | 0.75 |
|  55 | 1/40 | 0.025 |
|  | 2/40 | 0.05 |
|  | 3/40 | 0.075 |
|  | 1/400 | 0.0025 |
|  1 | 2/400 | 0.005 |
|  | 3/400 | 0.0075 |

Thus the fraction , for example, designates $1/4 + 1/40 + 0.1/400$, i.e. $141/400$ or 0.3525. The fraction  means $2/4 + 2/40 + 2/400$, i.e. $282/400$ or 0.73, and so forth.

The years and months in the ledger are almost invariably marked according to the calendar of Azaria Joughayetsi which Hovhannes terms as 'small figure of Azaria', or simply 'small figure'.

The first year of this calendar, compiled in Jougha and widely applied for over two centuries in Iran, India and other communities of Armenians from Jougha, begins on 21st March 1615, Old Style (2nd April, New Style) and ends on 20th March 1616 (1st April, New Style). The year, after the Old Armenian Style, is divided into 13 months, 12 of which have 30 days each, while the last month is made up of five days (or six in leap years).

¹ The left-hand side point is inserted when the decimal or centesimal of the fraction is missing or in the absence of both.

The months are Shams, Adam, Shbat, Nakha, Ghamar, Nadar, Tira, Dama, Hamira, Aram, Ovdan, Nirhan and Avelyats.

XII

The present paper is but a study of the Ledger of Hovhannes, son of the priest David. This outstanding source will prove a treasure of valuable information to those who will turn to it in future in their efforts to investigate the history of the capital of Armenian Khojas in Iran, India, Nepal, Tibet and especially in Jougha.

To make the contents of the Ledger of full scientific value there still lie ahead difficulties to be surmounted, in the sense of deciphering illegible parts and elucidating the meaning of dialectal and Persian terms, and also words in other languages, which our merchant has used.

This not at all easy task will be tackled with the active co-operation, as we have already mentioned, of the Iranist H. Papazian. In the meantime we believe that the information we have provided on the composition, the author's style and the language of the Ledger, as well as the contents, will prove helpful, not only for the history of trade among Armenian merchants, but also for Iran, and particularly for India, Nepal and Tibet, during the closing decades of the seventeenth century.

REVIEWS OF BOOKS

A BIBLIOGRAPHY OF INDOLOGY. Vol. III. Bengali Language and Literature, Part I (early period). Compiled by S. C. Das Gupta, formerly Professor of Bengali, Presidency College, Calcutta. Published by the Librarian, National Library, Calcutta.

The present volume of the *Bibliography* is intended, as the sub-title indicates, to record the work done in connection with Bengali Language and Literature in the early period, a period which is supposed to come to an end with the close of the fifteenth or beginning of the sixteenth century, or be equivalent to the pre-Caitanya period. But, as a matter of fact, it does not confine itself strictly within the limits of language and literature. It has sections on History-cum-Culture, Inscriptions and *Vṛtas* which have a very remote connection with the main subject of the work. Quite a number of entries again deal with matters scarcely belonging to the period under review. Stray, incidental references to topics of literary linguistic or cultural interest have occasionally been considered sufficient to merit an entry. Entries on the same topic are often found scattered in different places without any cross-references. Entries on the *Pavanadūta* (156), *Kūṭṭanīmata* (521), Hindu Rituals (286), Mallasarul Copperplates (480, 849, 494, 496), *Āryāsaptasatī* (1575), Nārāyaṇa Deva (1146-48, 1153-58, 1160-66, 1175-76) and *Padakalpataru* (1572-73, 1593) may be cited as instances. The same proper names are sometimes found to have been used in different places with different diacritical marks.

CHINTAHARAN CHAKRAVARTI

THE CHANGEABLE AND THE UNCHANGEABLE IN RELIGION. By Dr. Jwala Prasad Singhal. Published by Vishva Bandhu Research Institute, Hoshiarpur, in 1965. Pp. 225.

In this book the author sets himself the task of finding out what are the essential elements of religion. As a preliminary step to this inquiry, by way of preparing the ground for it, he also tackles the question whether there is any rational basis for belief in God. He thus deals with two separate problems of the philosophy of religion which are closely linked together.

As regards the question of a rational basis for the concept of God he refers to the hostile attitude of anthropologists, psycho-analytic thinkers and communists. He also draws our attention to the irrational attitude of some religious thinkers who take shelter under intuition which is eulogized as super-logic and as the only competent method which can throw light on religion on the plea that it belongs to the domain of mystery and is, therefore, beyond the grasp of the intellectual process. The author rightly denounces such attitude as he feels that theology should discard artificial protection and come out in the open (Chapter IV, p. 48). He, therefore, proposes to build his theory on the world of experience.

He then refers to Jung's view that there are two types of thinking, namely phantasy thinking and directed thinking. The latter evidently is identical with the logical method adopted in science and philosophy. He proposes to adopt this second method so that his findings may be acceptable to rationalist thinkers.

He then refers to Jung's theory about the genesis of the concept of God, which traces its origin to mystic experience which results from regressive pleasure-thinking and is auto-suggestive in character. According to Jung, therefore, the concept of God stems from the Father-*imago*. This proposition is not acceptable to the author. According to him the impulse to conceive the idea of God is received from social life. God is not necessarily imagined as Father but also as Ruler, Director, etc. (Chapter VI).

After thus clearing the ground the author builds up his theory on the origin of the concept of God. According to him it stems from the nature of man himself. His intellectual, emotional and physiological needs find fulfilment in such a concept (Chapter VIII). His intellect needs a principle which can give a satisfactory explanation of cosmology. On the other hand, science cannot give a complete cosmology. Then there is the pragmatic need for such a concept to derive solace and comfort in distress. Similarly, he needs such a concept to function as a centre round which his higher emotions like devotion and respect can play.

For satisfaction of man's intellectual need the author thinks that the cosmogony as outlined in the *Nasadiya Sūkta* is most suitable. Its principal feature is that it traces the birth of the universe from a primordial entity which is neither matter nor mind but contains the seed of both and is a self-propelling principle as the expression *Svadhā* would suggest. It may be mentioned here that it is germinal idea contained in this *Sūkta* which in later Upanishads matured into a pantheistic conception on the universe. The author prefers such a concept as it is neither idealistic nor materialistic and cannot be assailed by the discoveries of science.

Evidently he has preference for a pantheistic conception of God as against the theistic conception. He, however, appreciates its limitation and also realizes that, in such a conception, God will be an impersonal principle and would be incapable of responding to prayers. Nevertheless, he believes that it will be biologically and psychologically satisfactory and, additionally, will have the merit of being rooted in reality, thereby needing no protection under the umbrage of mysticism (Chapter XI) or intuition.

After this the author takes up the other question, namely what are the abiding elements of religion. According to him, the three permanent elements of religion are: (1) the intellectual, (2) the emotional and (3) the moral elements. He, however, concedes that the idea of God and cosmology may be variable elements to suit the intellectual and emotional needs of different men; but he is very firm on the point that the ethical element should be invariable, because it is a social matter and concerns the society more than the individual (Chapter XVIII). It should be, therefore, true both philosophically and socially. He also says that it can be theologically true as well because the theological God possesses all the qualities of perfection.

It appears that the main deductions of the author are logically sound. It is commendable that in treating the subject he has taken up a purely rational attitude which is a difficult feat indeed considering the fact that it is inextricably mixed up with emotion. He has not, however, been able to shake off altogether ideas which are more rooted in faith than reason. He thus proposes to retain a place for mysticism as a corrective to reason. He also appears to subscribe to the view that the soul can maintain a separate existence from the body and, therefore, transmigrate (Chapter XII). It is also felt that the treatment leaves room for improvement. It is not unoften repetitive and brings in matter which is not very directly connected with the point under treatment. The elaborate survey of moral theories over several chapters may be referred to as an instance.

On the whole, after going through the book under review one is left with the impression that it is a commendable effort on a difficult subject. The reading of the book will be no doubt a rewarding experience.

HIRANMAY BANERJI

SĀMKHYADARŚANA. By Bhupendra Nath Bhattacharyya, Lecturer, Sanskrit College, Calcutta. Published by Sanskrit College, Calcutta. Royal octavo, pp. 353.

The Sāmkhya system of Kapila represents one of the six schools of philosophy which follow the orthodox line. It is unique in two ways. At the first instance, it propounds a system which seeks to explain reality by accepting two detached entities, namely *Prakṛiti* on one side and *Puruṣa* on the other, where the second is altogether passive and the first, in a state of unbalance, transforms itself into both the subjective and the objective elements of reality. Secondly, it has continued to exercise profound influence over the later Indian thought including the *Mahābhārata*, the *Purāṇas* and even some of the *Upanishads*.

Unfortunately, there was so long no book in Bengali which has attempted a comprehensive treatment of this important school of philosophy. The present book appears to have removed this gap. The author has taken great pains at making his study as exhaustive as possible dealing with all the essential aspects of this system. In doing so, he has made full use of all available materials on the subject including the works of exponents like Īswara Kṛiṣṇa, Vijñānabhikṣu, Vāchaspati Miśra. He has also made full use of a manuscript entitled *Yuktidīpikā* which was found out only about 30 years ago. The treatment is methodical which makes the book easy to follow. It thus fulfils all the requirements of an exposition in Bengali of the Sāmkhya system of philosophy. It is a commendable effort for which both the author and publishers deserve the thanks of serious students of Indian philosophy.

HIRANMAY BANERJI

BOOKS RECEIVED

- (1) *Sir Alexander Cunningham and the Beginnings of Indian Archaeology* by Abu Imam
- (2) *Muhammad Shahidulah Felicitation Volume* by M. Enamul Haq
- (3) *Man in the Universe* by W. Norman Brown
- (4) *Souvenir, 20th Anniversary, Central Marine Fisheries Research Institute, Mandapam Camp*
- (5) *Husain Shahi Bengal* by M. R. Tarafdar
- (6) *Early South Indian Palaeography* by T. V. Mahalingam
- (7) *Folk Music and Folklore, Vol. I,* by H. Biswas
- (8) *The Mughal Nobility under Aurangzeb* by M. Athar Ali
- (9) *Early Indian Economics* by G. L. Adhya
- (10) *The Mughal and the Jogis of Jakhbar* by B. N. Goswami and J. F. Grewal
- (11) *Veda Samīkshā* by E. R. Sreekrishna Sarma
- (12) *Rāmāyana Samīkshā* by E. R. Sreekrishna Sarma
- (13) *Myths of the Shimongs of the Upper Siang* by T. K. Bhattacharya
- (14) *Ashmond Excavations at Kupgal* by G. G. Majumdar
- (15) *An Anthology of the Vedas and Śāstras* by Vishva Bandhu
- (16) *L'abhisamayabankaravrtti Di Arya-Vimuk Tisuma* by Primo Abhisawaya
- (17) *A New Abridged Version of Brhaspati-Samhitā of the Garuḍa Purāṇa* by L. Sternbach
- (18) *Malayamāruta, Pt. I,* by Raghavan
- (19) *Arṣeya Brāhmaṇa* by B. R. Sharma
- (20) *Sadvimśa Brāhmaṇa* by B. R. Sharma
- (21) *Samavidarsaya Dīpa* by B. R. Sharma
- (22) *Mṛgābatī* by M. P. Gupta
- (23) *Chandayan* by M. P. Gupta

CONTRIBUTION TOWARDS A CRITICAL EDITION
OF THE DHĀTUPĀṬHA

By S. SENGUPTA

(Received January 5, 1967)

INTRODUCTION

In the version of the Pāṇinian Dhātupāṭha in the Siddhāntakaumudī there are as many as 1,943 verbal roots. According to tradition Pāṇini compiled a bare list of such roots and did not assign to them their meanings. According to the same tradition one Bhīmasena for the first time added the meanings.¹ To some extent this has the support of the Mahābhāṣya.² On the other hand, Jinendrabuddhi, the author of the Nyāsa, a commentary on the Kāśikā, was definitely of the view that the Dhātupāṭha was not compiled by the master: अन्यो गणकारः, अन्यः सूत्रकारः (*vide* Nyāsa on P. VII.4.3). From a passage in the Mahābhāṣya (I.3.7) it appears that Pāṇini probably assigned meanings to some roots at least: आचार्य-प्रवृत्तिर्ज्ञापयति 'उवुन्दिनिशामने', 'स्कन्दिर्गतिशोषणयोः'. From another passage it appears that there was a Dhātupāṭha before Patañjali in which the meanings of the roots were given (*vide* Mahābhāṣya on P. I.3.1). Thus we have: वपिः प्रकरणे दृष्टश्छेदने चापि वर्तते, ईडिः स्तुतिचोदनयाच्नासु दृष्टः प्रेरणे चापि वर्तते, करोतिरभूतप्रादुर्भावे दृष्टो निर्मलीकरणे चापि वर्तते. But the present Dhātupāṭha is different, for we read there: 'वप बीजसन्ताने' 'ईड स्तुतौ' 'कृ करणे'.

Whoever compiled the present Dhātupāṭha, the authors of the Kāśikā, Jinendrabuddhi himself as also later authorities such as Vāmana and Kṣīrasvāmin treated the Dhātupāṭha with almost the same deference as they treated the Sūtras of Pāṇini.³

On the other hand, some of the meanings assigned are such that one would hesitate to accept that these were assigned by the master himself. For instance we have: 'बिदि अवयवे' 'इदि परमैश्वर्ये' 'गडि वदनैकदेशे' 'विधू

¹ भीमसेनादयो ह्यर्थं निर्दिदिक्षुरिति स्मर्यते, पाणिनिस्तु 'भ्वेध' इत्याद्यपाठीदिति भाष्य-कैयटयोः स्पष्टम्—Śabdakaustubha on P. 1.3.1. See also Kaiyata.

² 'न ह्यर्था आदिश्यन्ते'—Mahābhāṣya on P. 3.1.8, 11, 19.

³ कथमुद्यमोरमौ? 'अड उद्यमे' 'यम उपरमे' इति निपातनादनुगन्तव्यौ—Kāśikā, 7.3.34. 'धू विधूनने' 'तृप प्रीणने' इति निपातनादेतयोनुग् भविष्यति—Nyāsa, 7.3.37. 'शुभ शुम्भौ शोभार्थौ' अत एव निपातनाच्छोभा—Kṣīratarāṅgiṇī. शोभेति निपातनात्—Vāmana, K.S., 5.1.41.

शास्त्रे माङ्गल्ये च 'क्लीबु अघाष्टर्चे' 'अति अदि बन्धने'. There is an old verse on this, which states that the author of the Dhātupāṭha was not aware of the difference between verbs and substantives.¹ According to Kāśyapa as quoted in Sāyaṇa's Dhātuvṛtti (on गडि) these are not meanings of roots at all.²

It seems improbable that Pāṇini compiled only a bare list of roots. It is also probable that the Dhātupāṭha originally included many more Vedic roots. In any case it is certain that the Pāṇinian Dhātupāṭha has gone through considerable changes since it was first compiled, by way of additions, substitutions and modifications. The more important glosses on the Dhātupāṭha are Dhātu-pradīpa of Maitreya Rakṣita, Kṣīratarāṅgiṇī of Kṣīrasvāmin—both of eleventh century—and the Mādhaviya-dhātuvṛtti of Sāyaṇa of the fourteenth century. The Dhātupāṭha in the Siddhānta-kaumudī is more or less a repetition of Sāyaṇa's text. Dhātu-pradīpa text may be considered the eastern recension of the original Dhātupāṭha and Kṣīratarāṅgiṇī text may be considered the northern recension. Likewise, Sāyaṇa's and Bhaṭṭojī's texts may be considered the southern recension. The three recensions vary considerably in details as regards both the forms of the roots and their meanings. The object of the present essay is to discuss these variations. It appears that the text of the Dhātupāṭha had become very corrupt by the eleventh century, for Kṣīrasvāmin laments that the copies of the text available to him were so corrupt, especially the portion dealing with the Curādi class, that it was practically impossible to reconstruct the text with any pretension to accuracy.³

Out of 1,900 and odd roots of the Dhātupāṭha at most 800 are met with in the post-Vedic literature and only about 400 in the Vedic literature. The rest are known only from the Dhātupāṭha except that some of the roots may be 'surmised' from words derived from them. This suggests that when the Dhātupāṭha was compiled Sanskrit was a well-developed living language.

¹ 'नाम्नः सत्त्वप्रधानस्य धातुकारोऽज्ञ एव हि ।
शब्दवक्त्रैकदेशादेर्धात्वर्थत्वमवोचत ॥'

² अत्यादयः पञ्चैते न तिङविषया इति काश्यपः, referring to अति, अदि, इदि, विदि and गडि.

³ भग्नाः पारायणिकाश्चान्द्राद्या अपि यत्र विभ्रान्ताः ।
तान् धातून् विवरीतुं गहनमहो अध्यवसिताः स्म ॥
व्याख्यातेयं नवगणी कुशकाशावलम्बनात् ।
चुरादिरधूनारब्धो यत्र भग्ना महारथाः ॥
पाठेऽर्थे चागमभ्रंशान् महतामपि मोहतः ।
न विद्मः किन्तु जहिमः किं वात्रादध्महे वयम् ॥

The last verse has been quoted by Viṭṭhala, author of Prasāda, a commentary on Prakriyākaumudī and also by Bhaṭṭojī.

In Whitney's treatise on roots there are about 1,274 roots distributed among the usual 10 classes or *gaṇas*. Table I will show the position as compared to the Dhātupāṭha as recorded in the Siddhāntakaumudī. The difference will show the number of roots current at the time of compilation of the Dhātupāṭha but which cannot be traced either in Vedic or classical works.

TABLE I

| Class | Vedic only | Vedic and post-Vedic | Post-Vedic only | Total of cols. (2) and (3) | Pāṇinian Dhātu-pāṭha |
|------------|------------|----------------------|-----------------|----------------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) |
| I भ्वादि | 175 | 212 | 142 | 354 | 1,010 |
| II ञदादि | 80 | 49 | 14 | 63 | 72 |
| III ह्वादि | 33 | — | 16 | 16 | 24 |
| IV दिवादि | 41 | 64 | 28 | 92 | 140 |
| V स्वादि | 24 | 22 | 4 | 26 | 34 |
| VI तुदादि | 72 | 53 | 17 | 70 | 157 |
| VII रुधादि | 16 | — | 13 | 13 | 25 |
| VIII तनादि | 5 | 3 | — | 3 | 10 |
| IX क्चादि | 31 | 17 | 5 | 22 | 61 |
| X चुरादि | — | — | — | — | 410 |
| Total | | | | 659 | 1,943 |

Note.—Whitney does not recognize the Curādi class as he considers the roots to be merely causatives.

There are 1,943 roots in Bhaṭṭojī's text. There are 1,873 in Kṣīrasvamin's version, 1,900 in Sāyaṇa's and 1,909 in Maitreya Rakṣita's (*vide* Table II).

Every system of Sanskrit grammar has its own Dhātupāṭha. There are only 1,803 roots in Śākaṭāyana's list while there are no less than 1,985 in Hemacandra's. The arrangement of the Pāṇinian Dhātupāṭha is not very convenient for the modern reader. The roots are not arranged alphabetically whether in regard to the first letter or the last. The ātmanepada and parasmaipada roots within the 10 classes are also not collected together. From this point of view Hemacandra's arrangement is much better. The ātmanepada and parasmaipada roots as well as the ubhayapada roots are separately collected together and within each class the roots are arranged according to the final and then the penultimate letters of the alphabet. Vopadeva, author of the Mugdhabodha, compiled the Kavikalpadruma, which comprises in all 1,712 roots. The roots are not

arranged according to the usual 10 classes but they are arranged alphabetically according to the final letters. Taken as a whole this is the best and fullest compendium of roots both as regards the form of roots as well as their meanings even though some of the roots recorded elsewhere have been discarded here. Table II brings out the comparative position regarding distribution of the roots in the various Dhātupāṭhas among the usual 10 classes. Candragomin's text was not available to the author. For the Kātantra school Ramānātha's text has been made use of. He belonged to the sixteenth century and his commentary Manoramā is one of the most learned on the subject.

TABLE II

| Class | Kṣīra- svāmin | Maitreya Rakṣita | Sāyaṇa ¹ | Bhaṭṭojī | Jain- endra | Śākaṭā- yana | Hema- candra | Ramā- nātha |
|-------------|------------------|---------------------|---------------------|----------|----------------|-----------------|-----------------|----------------|
| I भ्वादि | 989 | 1,018 | 990 | 1,010 | 946 | 963 | 1,058 | 962 |
| II ऋदादि | 67 | 72 | 72 | 72 | 70 | 70 | 71 | 69 |
| III ह्वादि | 25 | 26 | 24 | 24 | 14 | 15 | 14 | 24 |
| IV दिवादि | 134 | 139 | 137 | 140 | 128 | 132 | 142 | 140 |
| V स्वादि | 33 | 36 | 34 | 34 | 27 | 28 | 29 | 32 |
| VI तुदादि | 155 | 163 | 153 | 157 | 146 | 152 | 158 | 144 |
| VII रुधादि | 25 | 25 | 25 | 25 | 25 | 26 | 25 | 25 |
| VIII तनादि | 8 | 10 | 8 | 10 | 9 | 8 | 9 | 10 |
| IX क्त्वादि | 60 | 63 | 60 | 61 | 59 | 59 | 60 | 58 |
| X चुरादि | 377 | 357 | 397 | 410 | 356 | 350 | 419 | 366 |
| Total | 1,873 | 1,909 | 1,900 | 1,943 | 1,780 | 1,803 | 1,985 | 1,830 |

There are also some special studies available. Thus Bhaṭṭamalla in his Ākhyātacandrikā has classified the roots according to the meanings of the roots on the lines of the Amarakoṣa in respect of words. Deva dealt with roots identical in form but appertaining to different conjugational classes. Deva's commentary Puruṣakāra of Kṛṣṇalīlāśuka is referred to by Sāyaṇa¹ with great respect. As yet there is no study dealing with variants in the forms of the roots or in their meanings. The present study is an attempt in this direction and is a humble contribution towards a critical edition of the Pāṇinian Dhātupāṭha.

¹ The name of the real author may very well be यज्ञनारायणः 'यज्ञनारायणायै प्रक्रियेयं प्रपञ्चिता'. See MDV on क्रमु and मव्य. It is unlikely that Sāyaṇa would describe himself here as यज्ञनारायण.

The versions of Kṣīrasvāmin and Maitreya have been in this study compared to those of Sāyaṇa and Bhaṭṭojī. Where there is any considerable difference among them either as regards the form or the meaning of any root, the views of Vopadeva, Hemacandra and Ramānātha have been indicated. The roots have been arranged alphabetically in the text pages under each of the 'gaṇas'.

Commentaries on the Dhātupāṭha by Maitreya, Kṣīrasvāmin, Sāyaṇa, Bhaṭṭojī and Puruṣakāra as also by Vopadeva and Hemacandra are in print. Works of others such as सम्मताकार, सुधाकर, काश्यप, कौशिक, आत्रेय, धनपाल, हरियोगिन् (आभरणकार ?) and नन्दिस्वामिन् frequently cited by Sāyaṇa and Kṣīrasvāmin are perhaps lost for ever.

The three Jaina grammarians Devanandin (Jainendra), Pālyakīrti (Śākaṭāyana) and Hemacandra have each compiled a Dhātupāṭha. An attempt will be made hereafter to present a comparative study dealing with these three Dhātupāṭhas.

In Sanskrit grammar roots are classified under 10 'gaṇas', namely:

भाद्यदादी जुहोत्यादिर्दिवादिः स्वादिरेव च ।

तुदादिश्च रुधादिश्च तनक्रयादिचुरादयः ॥

according to the augments added to the roots in the four सार्वधातुक tenses, लट्, लोट्, लङ् and विधिलिङ्. In each of these classes there are sub-classes. A list of these are given in Appendix I.

In the Dhātupāṭhas, roots are expressed with the addition of certain letters called 'anubandhas' which in effect are abbreviations of rules regarding conjugation and suffixes. ङ् and ञ् indicate that the roots are respectively आत्मनेपदी and उभयपदी. 'ऋ', 'लृ', 'ए', इर्, अङ् and म् are in respect of लुङ् conjugation, म् referring also to suffix राभुल्. टु, डु and ष् indicate that the root takes respectively the suffixes अथु, त्रि(म) and अ(ङ्). ऊ indicates that in conjugation augment इ is optional. आ and ई regulate augment इ in suffixes क्त and क्तवत्, उ, that in suffix क्त्वा. ओ and ञि indicate substitution of न for त in suffixes क्त and क्तवत्. Further details will be found in Appendix II, where lists of roots bearing the various 'anubandhas' are also collected together.

In Appendix III will be found lists of verbs which are included by Maitreya and Kṣīrasvāmin but omitted in the Siddhāntakaumudī, as also lists of verbs included in the Siddhāntakaumudī but excluded by either Maitreya and Kṣīrasvāmin.

I feel it my duty to thank Sri B. B. Majumdar for preparing the Press copy as also for many useful suggestions. I am grateful to Sri G. Pillai for typing out the 'Introduction'.

In a work of this nature, mistakes cannot perhaps be avoided. One can only hope that they are not serious and not too many in number.

ABBREVIATIONS

- A : Ātreya of the Kātantra School.
 C : Candra.
 D : Durga of the Kātantra School.
 Dh : Dhanapāla of the Śākaṭāyana School.
 H : Hemacandra.
 K : Kṣīrasvāmin.
 Kś : Kāśyapa of the Candra School.
 Ksk : Kauśika.
 M : Maitreya Rakṣita, author of Dhātu-pradīpa.
 N : Nandisvāmin.
 P : Puruṣakāra by Kṛṣṇalīlāśuka.
 R : Ramānātha, author of Manoramā, of the Kātantra School.
 S : Sāyaṇa's Mādhaviya Dhātuvṛtti (MDV).
 Sk : Siddhāntakaumudī of Bhaṭṭojī Dīkṣita.
 Ś : Śākaṭāyana.
 V : Vopadeva, author of Kavikalpadruma.

* indicates 'according to others', usually expressed in the texts as इत्येके, इत्यन्ये, इत्यपरे, etc.

() indicates 'according to' the authority named.

Thus M(S) means 'according to M', notes S; *(H) means 'according to others', notes H.

Example: वटि । वडि K, वटि *(K), वडि Ś(S), वडि *(H), 'वटि वडि वरुणे V. This means, 'As regards root वटि, K reads वडि but says it is वटि according to others. The root is वडि according to Ś, notes S. It is वडि according to some, notes H. According to V both वटि and वडि are equally acceptable.

APPENDIX I

- I. भ्वादि । 1. द्युतादि 2. वृतादि 3. घटादि 4. फणादि 5. ज्वलादि
 6. यजादि II. अदादि । 7. रुदादि 8. जक्षादि III. ह्वादि । 9. भृजादि 10. शिजादि

Notes—1. 'पुषादि द्युतादिलृदितः परस्मैपदेषु', 3.1.55; augment अ in aorist, e.g. अद्युतत्, अपुषत्. 'द्युद्भ्यो लुङि', 1.3.91 (वा परस्मैपदम्). 2. 'वृद्भ्यः स्यसनोः', 1.3.92 (वा परस्मैपदम्). 3. 'घटदयो मितः', 'मितां ह्रस्वः', 6.4.92 (उपधाया राौ), e.g. घटयति. 4. 'फणानाञ्च सप्तानाम्', 6.4.125 (एत्वाभ्यासलोपौ किति लिटि सेटि च थलि), e.g. फेणतुः. 5. 'ज्वलितिकसन्तेभ्यो राः', 3.1.140 (वा), e.g. ज्वलः ज्वालः. 6. 'वचिस्वपियजादीनां किति', 6.1.15 (सम्प्रसारणम्), e.g. ईजतुः ईजुः. 7. 'रुदादिभ्यः सार्वधातुके', 7.2.76 (बलादेरिट्), e.g. रोदिति. 8. 'जक्षित्यादयः षट्', 6.1.6 (अभ्यस्तम्). 'नाभ्यस्ताच्छतुर्नुम्', 7.1.78, e.g. जक्षत् जक्षतौ जक्षतः. 9. 'भृजामित्', 7.4.76 (अभ्यस्तस्य), e.g. विभेति मिमीते. 10. 'शिजां त्रयाणां गुणः श्लौ', 7.4.75, e.g. नेरोक्ति.

IV. दिवादि । 11. स्वादि 12. पुषादि 13. रधादि 14. शमादि VI. तुदादि ।
 15. कुटादि 16. किरादि 17. मुचादि IX. ऋचादि । 18. प्वादि 19. ल्वादि
 X. चुरादि । 20. चितादि (आकुस्मीय) 21. ग्रसादि (आस्वदीय) 22. युजादि
 (आधृषीय) 23. कथादि 24. पदादि (आगर्वीय)

11. 'स्वादय ओदितः' 'ओदितश्च', 8.3.45 (निष्ठातकारस्य नकारः), e.g. लग्न. 12. See note 1. 13. 'रधादिभ्यश्च', 7.2.45 (बलादेरार्धधातुकस्य वेट्), e.g. ररन्धिव ररन्ध्व. 14. 'शमामष्टानां दीर्घः श्यनि', 7.3.74, e.g. शाम्यति, 'शमित्यष्टाभ्यो घिणान्', 3.2.141, e.g. शमी. 15. 'गाङ्कुटादिभ्योऽञ्निन्डित्', e.g. कुटितुम्, no guṇa. 16. 'किरश्च पञ्चभ्यः', 7.2.75 (सन इट्), e.g. चिकरिषति. 17. 'शे मुचादीनाम्', 7.1.54 (नुम्), e.g. मुञ्चति अमुञ्चत्. 18. 'प्वादीनां ह्रस्वः' (शिति), e.g. पुनाति. 19. 'ल्वादिभ्यः', 8.3.44 (निष्ठातकारस्य नकारः), e.g. लून. 20. These are आत्मनेपदी. 21. These take णिच् if transitive: 'आस्वदः सकर्मकात्' (एव णिच्). 22. These take णिच् optionally and belong to other gaṇas. 23. These end in अ and are परस्मैपदी. The initial vowel is not lengthened. 24. These also end in अ but are आत्मनेपदी. The initial vowel is not lengthened.

APPENDIX II

Anubandhas

1. आ । क्षिद क्षिद त्वर धृष फल मिद (2) मूर्च्छं श्वित ष्विद (3) स्फुर्छं स्फूर्जं हुर्छं 2. इर् । उह क्षुद घुष च्युत छद छिद छृद रिज तुह तृद दुह दृश बुध भिद युज रिच रुध विच विज बुन्द शुच र्च्युत स्कन्द स्खद स्फुट 3. ई । अभ इन्द उछ उन्द उर्व ऊय ऋष कट कन कनूय क्षमाय गद गुर घूर चित चूर चृत छृद जन जभ जूष जृभ तुर तुर्व थुर्व दीप दुर्व दृभ धुर्व धूर नृत पूय पूर पृच प्याय भृज मद मस मूर्व यत लज लसृज विज वृज शूर सम स्फाय ह्लाद 4. उ । अच अञ्च अस ऋध (2) कुज कनस क्रम कलम क्षण क्षिण क्षीर क्षेव खन खूज गृध ग्रस ग्लस ग्लुच ग्लुञ्च घृण घृष चञ्च चम छम जम जस जिष भ्रम णास तन तञ्च तम तस तृण तृप त्वञ्च दनभ दम दस दिव ध्रस ध्वन्स पृष प्रुष प्लुष भृश भ्रन्श भ्रम मन मिष मृध मृष अ्रुच अ्रुञ्च म्लुच म्लुञ्च रम वन वञ्च वस विष वुन्द वृत वृध वृष शन्स शम शस शास आशास शृध श्रन्भ श्रम श्रिष षिध षिभ षिव षृन्भ षृभ ष्टुभ ष्ठिव ष्ठिध ष्णास ष्णुस स्यम स्रन्भ स्रन्स स्रिव हृष 5. ऊ । अक्ष अञ्ज अश कृप क्षम (2) गाह गुप गृह तक्ष तन्ह त्रप बृह मृज वृह व्रश्च षिध षिन्भ स्तृह स्यन्द 6. ऋ । एज एष ओख ओण कव काश कास केल क्रीड क्लीव क्लेव क्षीव खाद खेद खेव खोर खोल गाध गेव गेष ग्लेप ग्लेव ग्लेष चकास चाय चीभ चीव जुत जेष जह टिक टीक ठौक रिद

1. 'आदितश्च' 7.2.16 'विभाषा भावादिकर्मणोः' 7.2.17 (निष्ठायामिट् न). Ex. मिदा-मिन्न, मेदित. 2. 'इरितो वा' 3.1.57 (च्लेरङ् परस्मैपदेषु). Ex. छिदिर्-अच्छिदत्, अच्छैत्सीत. 3. 'स्वीदितो निष्ठायाम्' 7.2.14 (इट् न). Ex. चिती-चित्त. 4. 'उदितो वा' 7.2.56 (क्त्व इट्). Ex. शमू-शमित्वा शान्त्वा. 5. 'स्वरतिसूति-सूयति धूजू दितो वा' 7.2.44 (बलादेरार्धधातुकस्य वेट्). Ex. गुपू-गोप्ता गोपिता. 6. 'नाग्लोपिशास्वृदिताम्' 7.4.2

रोद रोष ताय तिक तिप तीक तुड तूड तेप तेव त्रौक दाश दास देव (2) द्राख द्राघ द्राड द्राह धोर ध्राख ध्राघ ध्राड ध्रेक नाथ नाध पिस पेल पेव पेष पेस पैरा प्रेष प्रोथ फेल वाड वाध भास भेष भ्राज भ्रेज भ्रेष भ्लाश भ्लेष मिथ मिद मिध मीम मेथ मेद मेध पमे मेव म्रेड म्लेव याच युत यौट राख राघ राज रास रेक रेप रेव रेष रोड रौड लाख लाघ लेप लोक लोच लोड वाश विथ वेरा वेथ वेन वेप वेल वेह शाख शाड शीक शीभ शेल शेव शोरा शौट श्रोरा श्लाख श्लाघ षेल षेव ष्टिप ष्टेप सेक स्नेक हुड हूड हेड हेष होड हौड ह्लेष 7. लृ। आप गम घस पत पिष मुच लुप विद विष शक शद शिष षद सृप 8. ए। कख कट क्वथ चद पथ रग लग ष्टग ह्रग 9. ओ। भञ्ज भुज मस्ज रुज लज लडि लस्ज विज वै व्रश्च श्वि स्फूर्ज हा (क्) हा(ङ्) 10. ङ्। इ ई उ कु कू क्लू गा गु घु डु चक्ष च्यु ज्यु डी त्रै दी दीधी दू दे धी धृ पी पू पृ प्यै प्री प्रु प्लु मा मी मृ मे री रु ली वेवी व्री शी श्यै षू ष्मि हा ह्लु 11. ञ्। ऊर्ण कृ कृ चि दा दू धा धू धृ नी ब्रु भृ मि मी लू वृ वृ वे व्ये शि श्री षि षु स्कु स्तृ स्तृ ह ह्ले 12. ञि। इन्ध क्षिद क्षिद तृष त्वर धृष फल भी मिद ष्वप ष्विद 13. टु। धु दु नन्द भ्राज भ्राश भ्लाश मस्ज याच वम वेप श्वि स्फूर्ज 14. डु। कृ क्री धा पच भृ मि लड वप 15. म्। 'घचादि' i.e. अक अग कख कग कण कन्द कनथ कथ क्रन्द कलन्द क्षजि गड घट चक चरा चल ज्वर ज्वल त्वर दक्ष दू नट नृ प्रथ प्रस भट अद रग रण लग वट वन (2) व्यथ शरा श्ररा श्रथ श्रा श्लथ षग ष्टक ष्टग स्वद स्मृ हेड ह्रल ह्रग ह्रग ह्रल। 'मारण तोषणानिशामनेषु ज्ञा' 'छदिरूर्जने' 'जिह्वोन्मन्थनयोर्लङिः' 'मदी हर्षग्लेपनयोः' 'जनीजूष्वमसुरञ्जोऽमन्ताश्च' 'ज्वलह्रलह्रलनमामनुपसर्गाद्वा' 'ग्लास्नावनुवमाञ्च' 'न कम्यमिचमाम्' शमोऽदर्शने' 'यमोऽपरिवेषणो' 'स्वदिरप-परिभ्याञ्च 16. ष्। 'घटादि' and क्षी जू भृ एप पच मृज लभ

APPENDIX III

I. (a) Included in Sk. but omitted by Maitreya :

गुर्द क्रीडायाम्, तीवृ गतौ, काचि दीप्तिबन्धनयोः, अ्रेड उन्मादे, प्रुड मर्दने, मेपृ रेपृ लेपृ गतौ, लर्ब गतौ, श्मील निमेषणो, खोलृ गतिप्रतिघाते, क्षेवु निरसने, लूष रुष भूषायाम्, ऋष हिंसायाम्, उहिर् अर्दने, क्लथ हिंसायाम्.

(चङ् परे राौ न ह्रस्वः). Ex. याचृ (णिजन्त) अययाचत्. 7. 'पुषादिद्युतादि-लृदितः परस्मैपदेषु' 3.1.55 (च्लेरङ्). Ex. शक्लृ-अशकत. 8. 'ह्रान्तक्षराश्वसजागृणिश्व्येदिताम्' 7.2.5 (वृद्धिर्नस्यादिडादौ सिचि). Ex. हसे अहसीत्. 9. 'उदितश्च' 8.2.45 (निष्ठातकारस्य नकारः) 3 (लस्जी-लग्न). 10. 'अनुदात्तङित आत्मनेपदम्' 1.3.12. Ex. पूड-सूते, शीङ्-शेते. 11. 'स्वरितजितः कर्त्रभिप्राये क्रियाफले' 1.3.72 (आत्मनेपदम्, i.e. the roots are उभयपदी). Ex. सुञ्-सुनुते सुनोति कृञ्-कुरुते करोति. 12. 'जीतः क्तः' 3.2.187 (वर्तमाने). Ex. जि धृषा-धृष्टः. 13. 'ट्वितोऽथुच्' 3.3.89 (टुनदि-नन्दथु). 14. 'ड्वितः क्त्रिः' 3.3.88 (क्त्रे मंप् नित्यम्). Ex. डुकृञ्-कृत्रिम. 15. 'मितां ह्रस्वः' 6.4.92 (णिचि). Ex. घट-घटयति. 'चिन्नमुलोर्दीर्घोऽन्यतरस्याम्' 6.4.93. Ex. घट अघटि अघाटि, घटं घटम् घाटं घाटम्. 16. 'षिद्धिदादिभ्योऽङ्' 3.3.104. Ex. घटा त्वरा.

(b) Included by Maitreya but omitted in Sk. :

श्रेकृ शुक त्रिगि श्वगि रेवृ प्लेवृ ह्लेषृ कस च्यु भच्यु गतौ, बिड आक्रोशे, मेट्ट अट्ट उन्मादने, कुठि वैकल्ये, कडि अभियोगे, पेवृ षेवृ शेवृ सेवने, चेल्ल चलने, माह माने, मक्ष रोषे, तृह तृहि वृद्धौ, क्रद वैकल्ये, स्वन शब्दे (घटादि), गल अदने, पृथु उन्दे, कष इत्थ हिंसायाम्, भक्ष अदने.

II. (a) Included in Sk. but omitted in Kṣīratarāṅgiṇī :

काचि दीप्तिबन्धनयोः, मन्थ विलोडने, वकि तिकृ तीकृ सर्व पर्व लर्ज अचु म्लुचु ध्वज गत्यर्थाः, तेज पालने, स्फुट विकसने, होड अनादरे, अड उन्मादे, किट त्रासे, प्रुड मर्दने, रोड उन्मादे, कुबि आच्छादने, लुबि तुबि अर्दने, धरण शब्दे, वल्ल संवरणे संचलने च, गेवृ सेवने, इमील क्षील निमेषणे, वेल चलने, कमर हूर्छने, क्षेवृ निरसने, थुर्वी हिंसायाम्, कर्व दर्पे, षर्व हिंसायाम्, रेष्ट अव्यक्ते शब्दे, बुगि वर्जने, मघि मण्डने, शुठ गतिप्रतिघाते, कड्ड कार्कश्ये, वल्ह परिभाषणहिंसाच्छादनेषु, खष हिंसार्थः, ष्टै वेष्टने, श्रु श्रवणे, डुड शब्दे, षच समवाये.

(b) Included in Kṣīratarāṅgiṇī but omitted in Sk. :

शीकृ नख दवि थर्व सर्व भर्व शु श्रु छ्युड गतौ, खर्ज व्यथने, कस मदे, तुजि हिंसायाम्, स्फुडि विकसने, एवृ शेवृ सेवृ केवृ खेवृ प्लेवृ म्लेवृ सेवने, खुडि गतिवैकल्ये, हेड विवाधायाम्, वटि विभाजने, स्फटि विशरणे, अठ गतौ, रेपृ शब्दे च, वण भण धण शब्दे, तय रक्षणो च, दाह निक्षेपे, मक्ष रोषे, द्राक्षि ध्वाङ्क्षि काङ्खायाम्, मुषि हिंसार्थः, भृषु हिंसासंघातयोः, रुट दीप्तौ, पृथु विस्तारे, स्तक प्रतिघाते, चनु हिंसार्थः, चल (घटादौ), स्तन शब्दे, क्षल संचये च, अय गतौ, अेषु भये, अक्ष भक्षणो, स्तयै शब्दसंघातयोः, क्षि ऐश्वर्ये.

I भ्वादि

654 अक्षू व्याप्तौ¹ 862 अञ्चु गतौ याचने च² 254 अट्ट अतिक्रमहिंसयोः³ 261 अठि गतौ⁴ 61-62 अति अदि बन्धने⁵ 515 अल भूषणव्याप्तिवारणेषु⁶ 600 अव रक्षण-गतिकान्तिप्रीति⁷ 886 अस गतिदीप्त्यादानेषु⁸ 209 आछि आयामे⁹ 611 ईष गति-हिंसादर्शनेषु¹⁰ 338 उठ उपघाते¹¹ 648 ऊह वितर्के¹² 176 ऋज गतिस्थानार्जने-पार्जनेषु¹³ 120 कख हसने¹⁴ 169 कचि¹⁵ 170 काचि दीप्तिबन्धनयोः¹⁶

¹अक्षू । संकोचे च M; संहतौ च V; सङ्घाते च KHR. ²अञ्चु । अचि गतौ K; अचु *(M) पूजायां गतौ म्लिष्टोक्तौ V. ³अट्ट । अट्ट Nyāsa(S) अट्ट *M(S); अट्ट M; अट्ट अट्ट K(S)HV; अट्ट *(K); See S. ⁴अठि । अठ KR; अठ अठि VH. ⁵अति अदि । तान्तं द्रविडा दान्तमार्याः Dh(S). ⁶अल । °निवारणेषु K. ⁷अव । K omits 'कान्ति'. ⁸अस । अष M(K)S; अष अस गत्यादानयोः H; अष दीप्तिग्रहणगतिषु, अस अषार्थे V. ⁹आछि । आञ्छि S आछि HVR. ¹⁰ईष । °आदानेषु MR; °दानदर्शनेषु V; °दर्शनेषु H. ¹¹उठ । ऊठ *SK. ¹²ऊह । तर्के K. ¹³ऋज । °ऊर्जनेषु Dh(S)SP-VH; ऋज गतौ R. ¹⁴कख । कक्ख HR; कक्ख खक्ख V; खक्ख K. ¹⁵⁻¹⁶कचि काचि ।

- 294 कटे वर्षाविरणयोः¹⁷ 360 कड मदे¹⁸ 282 कडि मदे¹⁹ 349 कडु कार्कश्ये²⁰
 70 कदि²¹ 71 क्रदि²² 72 कलदि आह्वाने रोदने च²³ 860 कस गतौ²⁴ 524 कील
 बन्धने²⁵ 184 कुच शब्दे तारे²⁶ 185 कुञ्च²⁷ 186 कुञ्च कौटिल्याल्पीभावयोः²⁸
 322 कुडि वैकल्ये²⁹ 842 कुल संस्त्याने बन्धुषु च³⁰ 598 कृवि हिंसाकरणायोश्च³¹
 485 कनूयी शब्दे उन्दने च³² 771 क्रप कृपायां गतौ च³³ 607 क्लेश अव्यक्तायां
 वाचि³⁴ 169 क्षजि गतिदानयोः³⁵ 237 क्षिज अव्यक्ते शब्दे³⁶ 567 क्षीवु³⁷
 568 क्षेवु निरसने³⁸ 468 क्षमायी विधूनने³⁹ 309 खट काङ्क्षायाम्⁴⁰ 229 खर्ज
 पूजने च⁴¹ 545 खल सञ्चये⁴² 302 खिट त्रासे⁴³ 551 खोलू⁴⁴ 552 खोरू
 गतिप्रतिघाते⁴⁵ 546 गल अदने⁴⁶ 970 गुप गोपने⁴⁷ 574 गुर्वी उद्यमने⁴⁸ 650 गूह
 ग्रहणे⁴⁹ 20 ग्लुञ्चु गतौ⁵⁰ 902 ग्लै⁵¹ 903 ग्लै हर्षक्षये⁵² 159 घघ हसने⁵³
 652 घुषि कान्तिकरणे⁵⁴ 653 घुषिर् अविशब्दने⁵⁵ 93 चक तृप्तौ प्रतिघाते च⁵⁶

कान्ति दीप्ति⁰ K; कचि बन्धने HV; कचि दीप्तौ R; Non-Pāṇinians do not admit काचि.
¹⁷ कटे । चटे *(SK). ¹⁸ कड । परस्मै कड कडि V; कडि H; also तुदादि. ¹⁹ कडि । आत्मने
 R omits also चुरादि. ²⁰ कडु । कड्ड R. ²¹⁻²³ कदि क्रदि कलदि । कदक्रदकलद इति नन्दी
 (S); क्रदकलद M; see S; कदक्रदकलद वैकल्यविकलत्वयोः, कदिक्रदिकलदि रोदने आह्वाने
 VH; कदक्रदकलद आह्वानरोदनयोः D(R). ²⁴ कस । गतिशासनयोः M; गतौ VH. ²⁵ कील ।
 बन्धे K. ²⁶ कुच । गताविति स्वामी S; contra printed edition. ²⁷⁻²⁸ कुञ्च कुञ्च । कुञ्च
 गतौ K; कुञ्च गतौ, कुञ्च च कौटिल्याल्पीभावयोः H; कुञ्च गतौ, कुञ्च च वक्रणे तौच्छय
 V. ²⁹ कुडि । कुटि DKśk(K); MR do not admit कुटि; others admit both. ³⁰ कुल ।
 सन्ताने K; संहतौ V; संख्याने R; संस्त्याने H. ³¹ कृवि । चाद् गतौ; K omits च;
 हिंसाविकरणायोः J; HVR include the root in स्वादि. ³² कनूयी । उन्दने K; शब्दे R;
 क्लेदने चेति भीमसेनः (R); दुर्गन्धे च V; दुर्गन्धे *(H). ³³ क्रप । गतौ S; कृपायां VHR.
³⁴ क्लेश । बाधने D(K)R; विबाधने H; भाषणे C; बधे V; व्यक्तायां वाचीति क्लेषत इति
 हलायुधश्च R. ³⁵ क्षजि । क्षज Kśk(S); क्षजि HR. क्षज क्षजि V. ³⁶ क्षिज । क्षीज
 MKHVR. ³⁷⁻³⁸ क्षीवु क्षेवु । क्षीवु S; क्षेवु C(S); क्षिवु HR; क्षिवु क्षीवु V. In भ्वादि
 both क्षिव and क्षेव yield क्षेवति, etc., in सार्वधातुक. There will be difference in आर्धधातुक
 forms. ³⁹ क्षमायी । शब्दे च S. ⁴⁰ खट । काङ्क्षे K. ⁴¹ खर्ज । चकाराद् व्यथने मार्जने च
 MKHV. ⁴² खल । सञ्चलने सञ्चये च M; चलने R; स्खलने सञ्चये Vc.; सञ्चये गतौ
 H; see also स्खल. ⁴³ खिट । त्रासे K. ⁴⁴⁻⁴⁵ खोलू खोरू । खोटने V; खोरू प्रतिघाते H.
⁴⁶ गल । गरणे M; अदने RH; भक्षे V. ⁴⁷ गुप । गोपनकुत्सनयोः MRV; सोपने H. ⁴⁸ गुर्वी ।
 उद्यमे K; ⁴⁹ गूह । गूह *(H). Admitted only by CD(K). ⁵⁰ ग्लुञ्चु । ग्लुञ्च S. ⁵¹ ग्लै ।
 गात्रविमाने *(S); क्लमे V. ⁵² ग्लै । गात्रविमाने MKRH; कान्तिसंक्षये V. ⁵³ घघ ।
 घग्घ KCRHV. ⁵⁴ घुषि । घुषि R; घष *(Sk); घिषि घसि KH; घसेति स्वामी S.
⁵⁵ घुषिर् । शब्दे KMH; विशब्दे V; विशब्दने Ś; अशब्दे RC(S)Kśp(S). ⁵⁶ चक । तृप्तौ

865 चते⁵⁷ 866 चदे याचने⁵⁸ 68 चदि आह्लादे⁵⁹ 556 चर गतौ⁶⁰ 533 चिल्ल
 शैथिल्ये भावकरणे च⁶¹ 879 चीवृ आदानसंवरणयोः⁶² 325 चुडि अल्पीभावे⁶³
 344 चुडु भावकरणे⁶⁴ 531 चुल्ल भावकरणे⁶⁵ 388 जभी गात्रविनामे⁶⁶ 833 जल
 घातने⁶⁷ 718 जर्ज⁶⁸ 719 चर्च⁶⁹ 720 भर्भ परिभाषणहिंसातर्जनेषु⁷⁰ 697 जिषु⁷¹
 698 विषु⁷² 699 मिषु सेचने⁷³ 644 जेह प्रयत्ने 'जनीजृष्वनसु रञ्जोहमन्ताश्च'
 'मारणतोषणनिशामनेषु ज्ञा'⁷⁴ 839 टल⁷⁵ 840 टल वैक्लव्ये⁷⁶ 968 डीडः
 विहायसा गतौ⁷⁷ 134 एख गतौ⁷⁸ 310 एण्ट नृत्तौ⁷⁹ 981 एणम प्रह्वत्वे शब्दे च⁸⁰
 480 एय गतौ⁸¹ 590 एणिवि सेचने⁸² 665 त्वक्ष त्वचने⁸³ 971 तिज निशाने⁸⁴
 534 तिल गतौ⁸⁵ 244 तुज हिंसायाम्⁸⁶ 351 तुडू तोडने⁸⁷ 660 त्रक्ष⁸⁸ 661 ष्ट्रक्ष
 गतौ⁸⁹ 1001 त्विष दीप्तौ⁹⁰ 770 दक्ष गतिहिंसनयोः⁹¹ 8 दध धारणे⁹²
 548 दल विशरणे⁹³ 994 दान खण्डने⁹⁴ 808 दू भये⁹⁵ 905 द्यै न्यक्करणे⁹⁶
 114 द्राघृ सामर्थ्ये⁹⁷ 646 द्राह निद्राक्षये⁹⁸ 670 द्राक्षि⁹⁹ 671 ध्राक्षि घोरवाशिते
 च¹⁰⁰ 78 द्रेकृ¹⁰¹ 79 ध्रेकृ शब्दोत्साहयोः¹⁰² 601 धावु गतिशुद्धयोः¹⁰³ 900 धृञ्

KH; VR as Sk. ⁵⁷⁻⁵⁸ चते चदे । याचने VH; याचने परिभाषणे SR. ⁵⁹ चदि । आह्लादने
 M. ⁶⁰ चर । भक्षणोऽपि HV; आचारेऽपि V. ⁶¹ चिल्ल । शैथिल्ये KR; शैथिल्ये विकसने H;
 °भावकरणे V. ⁶² चीवृ । चीव K. ⁶³ चुडि । चुटि KH. ⁶⁴ चुडु । भावकरणे MKRVH.
⁶⁵⁻⁶⁶ जभी । जभ MKHR; जभ जभि V; जभि in Deva, 'जृम्भने जम्भते'. ⁶⁷ जल । घात्ये
 KSH; धान्ये CMVR. ⁶⁸ जर्ज । जर्त्स R. ⁶⁹ चर्च । ⁷⁰ भर्भ । भर्च K; हिंससेन्तर्जनयोः
 K; सन्तर्जने V; तुदादि H. ⁷¹⁻⁷³ जिषु विषु मिषु । सेवने M; सेचने HV.
⁷⁴ जेह । गतावपि SK. °जृष्वनसु° । °भृ *M(S); °जृष्णसु° *(SK following S.)
 ज्ञा । निशाने CKSHV, etc.; निशामन MR; see S. ⁷⁵⁻⁷⁶ टल टल । वैक्लव्ये K;
 वैक्लव्ये HVR. ⁷⁷ डीडः । आकाशगमने Dh(S); विहायसां गतौ K; विहायसा गतौ H.
⁷⁸ एख । नख KR; एख V; एख नख H. ⁷⁹ एण्ट । नृत्तौ MKVR; नतौ *(K); नृत्तौ
 H; गतौ *(Sk); एण्ट नट नृत्यहिंसयोः V. ⁸⁰ एणम । प्रह्वत्वे KH; VR as in SK;
 शब्दार्थो न भाषायाम् Vc. ⁸¹ एय । एय रक्षणो गतौ R; नय KHV. ⁸² एणिवि । सेवने
 *(K); सेचने HV; निवि KH. ⁸³ त्वक्ष । त्वक्ष K; तक्ष त्वक्ष HVR. ⁸⁴ तिज । क्षमायाञ्च
 KHVR. ⁸⁵ तिल । तिल्ल K; तिल्ल *(S); तिल तिल्ल HRV. ⁸⁶ तुज । तुज तुजि
 M; तुजि बलने च HR; तुजि प्राणे बले V. ⁸⁷ तुडू । तुडू CD(K)RV; तूडू KH; तुडू बधे
 तूडू अनादरे V. ⁸⁸⁻⁸⁹ त्रक्ष ष्ट्रक्ष । तृक्ष ष्ट्रक्ष MHR; स्त्रक्ष also SK; तृक्ष ष्ट्रक्ष स्तृक्ष V;
 गतिशासनयोः S; गतिबधयोः Vc. ⁹⁰⁻⁹¹ त्विष दक्ष । ⁹² दध । धारणे H; दाने *(SK); दानधृत्योः
 Vc. ⁹³ दल । विदारणे K; विशरणे HR; भेदे V. ⁹⁴ दान । *(SK); अवखण्डने HR;
 आर्जवे छिदि V. ⁹⁵ दू । दू *(SK). ⁹⁶ द्यै । न्यङ्गविधाने K; न्यङ्गविमाने K(S); न्यक्करणे
 HVR. ⁹⁷ द्राघृ । द्राघृ K; आयामे च SK; ध्राघृ शक्तौ V; ध्राघृ शोषणालमर्थयोः H.
⁹⁸ द्राह । निक्षेपे निद्राक्षेपे *(H); निद्राक्षये R; दाह निक्षेपे K; दाह जागरे निक्षेपे V.
⁹⁹⁻¹⁰⁰ द्राक्षि ध्राक्षि । चकारात् काङ्क्षायाम् । घोरनिवाशिते च MK; घोरवासिते च
 H. ध्माक्षि also R. ¹⁰¹⁻¹⁰² द्रेकृ ध्रेकृ । शब्दोत्साहे CKSP(S)H; शब्दोत्साहयोः RV. ¹⁰³ धावु ।

धारणे ¹⁰⁴ 217 ध्रज ¹⁰⁵ 218 ध्रजि ¹⁰⁶ 219 धृज ¹⁰⁷ 220 धृजि ¹⁰⁸ 221 ध्वज ¹⁰⁹
 222 ध्वजि गतौ ¹¹⁰ 459 ध्रण शब्दे ¹¹¹ 939 ध्वृ हृर्धने ¹¹² 7 नाधृ याच्योपता-
 पैश्वर्याशीःषु ¹¹³ 174 पचि व्यक्तीकरणे ¹¹⁴ 476 पय गतौ ¹¹⁵ 412 पर्प गतौ ¹¹⁶
 588-90 पिवि ¹¹⁷ मिवि ¹¹⁸ निवि सेचने ¹¹⁹ 720 पिसृ ¹²⁰ 721 पेसृ गतौ ¹²¹
 576-78 पुर्व ¹²² पर्व ¹²³ मर्व पूरणे ¹²⁴ 705-07 पृषु ¹²⁵ वृषु ¹²⁶ मृषु सेचने ¹²⁷
 615 पेष् प्रयत्ने ¹²⁸ 766 प्रस विस्तारे ¹²⁹ 620 प्रेषृ गतौ ¹³⁰ 958 प्लुङ्ग गतौ ¹³¹
 286 बाडृ आप्लाव्ये ¹³² 645 बाहृ प्रयत्ने ¹³³ 317 बिट आक्रोशे ¹³⁴ 64 बिदि
 अवयवे ¹³⁵ 158 बुगि अवयवे ¹³⁶ 875 बुधिर् बोधने ¹³⁷ 876 (उ) बुन्दिर्
 निशामने ¹³⁸ 736-37 बृह बृहि वृद्धौ, बृहि शब्दे च ¹³⁹ 273 भडि परिभाषणे ¹⁴⁰
 510 भर्व हिंसायाम् ¹⁴¹ 606 भिक्ष भिक्षायामलाभे लाभे च ¹⁴² 883 भेषृ भये ¹⁴³
 892 भक्ष ¹⁴⁴ 893 भ्लक्ष अदने ¹⁴⁵ 823 (टु) भ्राजू दीप्तौ ¹⁴⁶ 884 भ्रेषृ भ्लेषृ

शब्दौ K; सतर्वेगितायां गतौ धावादेशः Kāsikā on 7.3.78. ¹⁰⁴ धृज् । कृज् करणे K;
 तदनार्पम् S. ¹⁰⁵⁻¹⁰⁶ ध्रज ध्रजि । ¹⁰⁷ धृज । वृज K; विज *(K); ध्वज *(K); वज
 व्रज ष्वस्ज also H; व्रज V; तरङ्गिणीकाश्यपसम्मतास्तु, आद्यौ व्रज व्रजीति पठ्येते (S);
 'वज व्रज गतौ' follow in SK as Nos. 251 and 252. ¹⁰⁸ धृजि । ¹⁰⁹ ध्वज । ¹¹⁰ ध्वजि ।
¹¹¹ ध्रण । वन भन धन K. ¹¹² ध्वृ । हिंसायामपि S; कौटिल्ये HV. ¹¹³ नाधृ । राधृ
 M; नाधृ HVR; नाधेत्यप्याभरणकारः S. ¹¹⁴ पचि । पञ्च D; पचि H; पचि पञ्च
 RV. ¹¹⁵ पय । यय M; पय HRV. ¹¹⁶ पर्प । वर्फ KHV; रर्फ (वर्फ?) R.
¹¹⁷⁻¹¹⁹ पिवि° । स्रंसने M; सेचने VH; सेवने R; निवि H. ¹²⁰⁻¹²¹ पिसृ पेसृ । पिशृ
 पेशृ *S; पिसृ HV; पिसृ पेसृ R. ¹²²⁻¹²⁴ पुर्व° । पूत्तौ HV. ¹²⁵⁻¹²⁷ पृषु वृषु
 मृषु । पृषु हृषु मृषु हिंसाक्लेशनादानेषु Kśp(S); पृषु वृषु मृषु R; वृषु हृषु H.
¹²⁸ पेष् । येष् MVR; एष् S. ¹²⁹ प्रस । पृथु K; 'प्रथेः सम्प्रसारणात्' (cf. Un. 1.28);
 अनार्पममुं मन्यन्ते S; प्रस प्रसवे प्रस विस्तार इति दुर्गः (K); प्रस विस्तारे, प्रसव इत्यन्ये H;
 विस्तारे R; विस्तारे प्रसवे V. ¹³⁰ प्रेषृ । हेषृ KVV. ¹³¹ प्लुङ्ग । कुङ्ग *(SK). ¹³² बाडृ ।
 वाडृ KHVR. ¹³³ बाहृ । बाहृ *(SK); वाहृ HVR. ¹³⁴ बिट । विट KH; विड इति नन्दी
 K; cf. विडाल; हिट *(SK); विट विड VR. ¹³⁵ बिदि । भिदि *(SK). ¹³⁶ बुगि । रुगि
 MS; बुगि HVR. ¹³⁷ बुधिर् । बुध K; बुधिरिति नन्दी K; वेदने V. ¹³⁸ बुन्दिर् । बुन्दिर्
 KHR; बुन्दिर् M; बुन्धिर् इति नन्दी K; वेदिर् *(K); बुदिर् बुन्दिर् बुन्धिर् V. ¹³⁹ बृह
 बृहि । भाषार्थौ KS; बृहिर् C; बृह बृहि V; बृहिर् शब्दे च R. ¹⁴⁰ भडि । परिहासे MR;
 परिभाषणे H; वाचि V. ¹⁴¹ भर्व । भर्व VRH; भर्भ R; KM omit. ¹⁴² भिक्ष । भिक्षायाम्
 M; याच्यायाम H; लाभार्थ लोभोक्तिक्लिशि V. ¹⁴³ भेषृ । गतौ *(SK). ¹⁴⁴⁻⁴⁵ भक्ष भ्लक्ष ।
 भक्ष भक्ष M; भक्ष पक्ष D(K); भक्ष भक्षणे R; भृक्ष D(R). ¹⁴⁶ (टु) भ्राजू । टु भ्राजू
 N. VI. 4. 125, MHV; टु भ्राज R; भ्राज इति दुर्गत्रिलोचनौ Ramānātha; भ्राजू KC.

गतौ ¹⁴⁷ 272 मडि विभाजने ¹⁴⁸ 13 मदि स्तुतिमोदमदस्वप्नकान्तिगतिषु ¹⁴⁹ 42 मन्थ
 विलोडने ¹⁵⁰ 868 मिदृ ¹⁵¹ 869 मेदृ मेधाहिसनयोः ¹⁵² 172 मुचि कल्कने ¹⁵³
 250-51 मज मुजि शब्दे ¹⁵⁴ 265 मुठि पालने ¹⁵⁵ 323 मुड मर्दने ¹⁵⁶ 275 मुडि
 मार्जने ¹⁵⁷ 664 मृक्ष सङ्घाते ¹⁵⁸ 371-73 मेपृ वेपृ लेपृ गतौ ¹⁵⁹ 292 म्रेटृ ¹⁶⁰
 293 मेडृ उन्मादे ¹⁶¹ 285 म्लेच्छ अव्यक्ते शब्दे ¹⁶² 980 यभ मैथुने ¹⁶³ 984 यम
 उपरमे, 'यमोऽपरिवेषणो' ¹⁶⁴ 291 योटृ सम्बन्धे ¹⁶⁵ 297 रट परिभाषणे ¹⁶⁶ 853 रमु
 क्रीडायाम् ¹⁶⁷ 745 रुच दीप्तावभिप्रीतौ च ¹⁶⁸ 747 रुट प्रतिघाते ¹⁶⁹ 327-28 रुटि
 लुटि स्तेये ¹⁷⁰ 859 रुह बीजजन्मनि प्रादुर्भावे च ¹⁷¹ 507 रेवृ प्लवगतौ ¹⁷²
 357 रोडृ ¹⁷³ 358 रौडृ उन्मादे ¹⁷⁴ 108 लघि गतौ ¹⁷⁵ 359 लड विलासे ¹⁷⁶
 359 लडि जिह्वोन्मथने ¹⁷⁷ 314 लुट विलोभने ¹⁷⁸ 357 लोडृ उन्मादे ¹⁷⁹ 663 वक्ष

¹⁴⁷ भ्रेषृ भ्लेषृ । चलने M; भये चेलने K; V does not mention भ्रेषृ. ¹⁴⁸ मडि । वेष्टने HR; विभाजने वेष्टने V. ¹⁴⁹ मदि । कान्ति omitted by KHR; जाड्ये C; कान्तिगतिषु *(S); स्वप्ने जाड्ये V. ¹⁵⁰ मन्थ । मथि K; मन्थ MR, CD(S); मथि मन्थ RV. ¹⁵¹⁻⁵² मिदृ मेदृ । मिथृ मेथृ K; मिधृ मेधृ N; मेध इति कातन्त्रे भोजे S; मेधृ SKH; मिदृ मेदृ RH; मेथृ सङ्गे च V; मिथृ मेथृ मिदृ मेदृ मेधृ V. ¹⁵³ मुचि । मच C; मुचि H; मच मुचि R; मच मुच मुचि कल्कने दम्भे शाठ्ये V. ¹⁵⁴ मज मुजि । मज K; मज मुज H; मुज मुञ्जि मुञ्ज मृजाध्वन्योः V. ¹⁵⁵ मुठि । पालने MS; पलायने CK. ¹⁵⁶ मुड । मुट SMHRD(K); मुटि K(S); पुडि S(S); पुडि चेत्येके MV; कुठीति कौशिकदुर्गाविति स्वामी P; मुडि प्रमर्दने K. ¹⁵⁷ मुडि । मार्जने MCHS; मज्जने K; छिदि मर्दे V. ¹⁵⁸ मृक्ष । म्रक्ष *(M, Sk); म्रक्ष सङ्घाते V. ¹⁵⁹ मेपृ वेपृ लेपृ । मेपृ लेपृ सेवने, रेपृ प्लवगतौ M(S); पेवृ षेवृ सेवने; वेवृ प्लेवृ गतौ in printed edition; मेपृ लेपृ गतौ रेपृ शब्दे V; मेपृ रेपृ लेपृ गतौ H; R omits; see रेवृ. ¹⁶⁰⁻¹⁶¹ म्रेटृ मेडृ । मेटृ म्रेटृ उन्मादने M; म्रेटृ म्लेटृ उन्मादे K; म्रेटृ मेडृ म्रेडृ H; मेटृ म्रेटृ म्लेटृ R; मेटृ म्रेटृ म्लेटृ म्रेडृ म्लेडृ V. ¹⁶² म्लेच्छ । अव्यक्तायां वाचि KH; व्यक्तायां वाचि R; देश्योक्तौ अव्यक्तशब्देऽपि V. ¹⁶³ यभ । विपरीत-मैथुने MK; जभि चेति दौर्गाः K; यभ जभ मैथुने H; यभ जभ जभि मैथुने V; यभ मैथुने R. ¹⁶⁴ यम । यमु *(M); यमु H; यम VR; 'यम परिवेषणो तदभावे' V. ¹⁶⁵ योटृ । सम्बन्धे. ¹⁶⁶ रट । रठ MKSR; रट रठ HV. ¹⁶⁷ रमु । रमु V; रम KHR. ¹⁶⁸ रुच । अभिप्रीत्याञ्च M. ¹⁶⁹ रुट । दीप्तौ K; दीप्तौ प्रतिघाते V. ¹⁷⁰ रुटि लुटि । रुठ लुठ K; रुठि *(K); लुठि *(K); रुठि लुठि S; रुडि लुडि S; रुटि लुटि R; रुटि रुठ रुठि H; रुटि लुटि रुठि लुठि V. ¹⁷¹ रुह । बीजजन्मनि K; जन्मनि प्रादुर्भावे HR; जन्मनि R. ¹⁷² रेवृ । प्लुतिगतौ K; रेवृ प्लवगतौ M. ¹⁷³⁻⁷⁴ रोडृ रौडृ । रोडृ लौडृ S; रोडृ अनादरे लोडृ उन्मादे R; रोडृ रौडृ अनादरे, लोडृ लौडृ उन्मादे VH. ¹⁷⁵ लघि । भोजननिवृत्तावपि SK. ¹⁷⁶ लड । विलासे HVR; विलासे M. ¹⁷⁷ लडि । जिह्वोन्मथने M.PR; जिह्वोन्मथनयोः KVDh(S); H omits. ¹⁷⁸ लुट । लुड इति द्रमिताः K; लुट विलोटविलोभनयोः V. (विलोट=सम्बन्धीभाव Vc); विलोटने R; प्रतीघाते H. ¹⁷⁹ लोडृ । लोडृ K; लोडृ लौडृ

रोषे 180 779 वट 181 780 भट परिभाषणे 182 271 वडि विभाजने 183 462 वस
 शब्दे 184 463 वन 185 464 षण सम्भक्तौ 186 803 'वनु च नोच्यते' 187
 1003 (डु) वप् बीजसन्ताने 188 557 वभ्र गतौ 189 613 वर्ष स्नेहने 190 640 वह 191
 641 बल्ह परिभाषणहिंसाच्छादनेषु 192 491 बल 193 492 बल्ल संवरणे सञ्चरणे
 च 194 208 बाछि इच्छायाम् 195 33 विथु याचने 196 877 वेणु गतिज्ञान चिन्ता
 निशामन वादित्र ग्रहणेषु 197 540 वेल्ल चलने 198 643 वेह प्रयत्ने 199 746 व्यथ
 भयसञ्चलनयोः 200 340 शठ कैतवे च 201 797 शण दाने च 202 1000 शप
 आक्रोशे 203 898 शम दर्शने 204 726 शश प्लुतगतौ 205 75 शीकृ सेचने 206
 513 शुच्य अभिषवे 207 341 शुठ गतिप्रतिवाते 208 432 शुभ 209 433 शुन्भ
 भाषणे 210 526 शूल रुजायां सङ्घाते च 211 679 शूष प्रसवे 212 873 शृधु उन्दने 213
 543 शेलु गतौ 214 918 शै 215 919 श्रै पाके 216 35 श्रथि शैथिल्ये 217
 393 श्रन्भु प्रमादे 218 85 श्वकि गतौ 219 549 श्वल आशुगमने 220 789 षगे 221

VH. 180 वक्ष । सङ्घाते K; रोषे RH; संघाते *(H); रोषसंहृत्योः V. 181 वट । इति
 बहुषु कोशेषु दृश्यते P. 182 भट । 183 वडि । वेष्टने MH; वेष्टने विभागे च V. 184 वस ।
 चन MS. 185-86 वन षण । भक्तौ K. 187 वनु । नोपलभ्यते S; नोच्यते R; व्यापृतौ
 V; H omits. 188 वप् । छेदनेऽपि S; मन्तुतन्तुबीजोप्त्योः V; टु वप् H; डु वप् V. 189 वभ्र ।
 वभ्र KV; वभ्र HR. 190 वर्ष । पर्ष KMHV. 191-92 वह बल्ह । आदानेषु KM;
 प्रधान्यपरिभाषणहिंसादानेषु R; श्रैष्ठ्ये V; बहबल्ह परिभाषणहिंसादानेषु H; °आच्छादन-
 हिंसादानवाक्षु V. 193-94 बल बल्ल । संवरणे MH; बल संवरणे K; बल बल्लेति दुर्गः K.
 195 बाछि । वाञ्छि S; बाछि HVR. 196 विथु । विधु KSK; विथु वेथु VR. 197 वेणु ।
 वेनू also Sk; वेणु HVR; R omits; वादित्रग्रहणेषु. 198 वेल्ल । वेल्ल HR; वेल्लू KV.
 199 वेह । वेह *(S.Sk); वेह HV; विह *(K). 200 व्यथ । भयचलनयोः KH; दुःखचलनयोः
 D(K); दुःखभयचलनेषु V; दुःखभयचलनयोः R. 201 शठ । चाद् हिंसाक्लेशनयोः कैतवे K;
 वधक्लेशकैतवे VR.HSk. 202 शण । चाद् गतौ, गतौ *(SK); दाने RH. 203 शप । शपथे
 भोजादयः S; आक्रोशे HR; क्रोशे V. 204 शम । अदर्शने MKHR; दर्शन एव केचिदिच्छन्ति
 H; शमे नित्यं ह्रस्वः Vc; for discussion, see SSK. 205 शश । प्लुति गतौ K; प्लुतगतौ
 H; प्लवने V. 206 शीकृ । शीकृ DhKsk(S); शीकृ HR; शीकृ शीकृ सेचने गतौ च V.
 207 शुच्य । शुच्य चुच्य H; शुच्यी K; चुच्य *Sk; शुच्यी चुच्यी VR. 208 शुठ । शुठ
 HR; D(K); शुठि K; शुठि *(Sk); शुठ शुठि V; प्रतिवाते Dh(S). 209-210 शुभ शुन्भ ।
 भासने *(Sk); हिंसायाम् *(Sk); भासने DhD(KS); शन्भ भाषणे हिंसायाञ्च KHV;
 शुन्भ is omitted K(S) and Ātreya (S); शुभ is omitted by HV. शुम्भ (Gupta) K
 211 शूल । रुजायाम् HVR; रुजायां सङ्घाते MS; रुजायां सङ्घर्षे च K. 212 शूष । सूष *(S);
 शूष MKR; शूष षूष V; H omits. 213 शृधु । उन्दे K. 214 शेलु । षेलु *(Sk); शेलु षेलु HV.
 215-216 शै । सै KHV. श्रै । श्रै *(Sk). 217 श्रथि । श्रन्थ H; श्रथि VR. 218 श्रन्भु ।
 स्रन्भु K; स्रंसु(?) M; श्रन्भु स्रन्भु SKH; स्रन्भु V. 219 श्वकि । स्वकि Sammata° S;
 श्वकि HVR. 220 श्वल । शल K; शल श्वल HV; श्वल श्वल्ल R. 221 षगे । पगे

790 ष्टगे संवरणे ²²² 997 षच समवाये ²²³ 829 षम ²²⁴ 830 षम अवैकल्ये ²²⁵
 225 षर्ज अर्जने ²²⁶ 586 षर्व हिंसायाम् ²²⁷ 547 षल गतौ ²²⁸ 47 षिध गत्याम् ²²⁹
 430 षृभु षृन्भु हिंसार्थौ ²³⁰ 915 षै क्षये ²³¹ 782 ष्टक प्रणिघाते ²³² 461 ष्टन
 शब्दे ²³³ 922 ष्टै ²³⁴ 923 ष्णौ वेष्टने ²³⁵ 911 ष्टचै शब्दसङ्घातयोः ²³⁶ 836 ष्ठल
 स्थाने ²³⁷ 18 ष्वद ²³⁸ 19 स्वर्द आस्वादने ²³⁹ 100 ष्वष्क गतौ ²⁴⁰ 794 जि
 ष्विदा स्नेहमोचनयोः ²⁴¹ 978 जि ष्विदा अव्यक्ते शब्दे ²⁴² 666 सूक्ष्म आदरे ²⁴³
 509 सूक्ष्म ईर्ष्यायाम् ²⁴⁴ 81 सेकृ गतौ ²⁴⁵ 387 स्कभि प्रतिबन्धे 'स्वदिरवपरि-
 भ्याञ्च' ²⁴⁶ 544 स्खल सञ्चलने ²⁴⁷ 888 स्पश बाधनस्पर्शनयोः ²⁴⁸ 329 स्फुटिर्
 विशरणो ²⁴⁹ 235 (टुओ) स्फूर्जा वज्रनिर्घोषे ²⁵⁰ 761 स्यन्दू प्रस्रवणे ²⁵¹ 757 स्रन्भु
 विश्वासे ²⁵² 954 स्रंसु ²⁵³ 955 भ्रंसु ²⁵⁴ 956 ध्वंसु अवसंसने, ध्वंसु गतौ च ²⁵⁵

सगे V. ²²² ष्टगे । ष्टगे स्थगे K; ष्टगे स्थगे V; ष्टगे H; स्थगे D(K)R. ²²³ षच । सेचने
 KSHVR; समवाये Ś; cf. सचिव. ²²⁴⁻²²⁵ षम ष्टम । अवैकल्ये K; वैकल्ये SHV.
²²⁶ षर्ज । षर्ज KHR; षर्ज सर्ज V. ²²⁷ षर्व । सर्व K; शर्व VR; शर्व षर्व सर्व H.
²²⁸ षल । सल HKH; षल V. ²²⁹ षिध । षिधु MHRKśp(S); Taraṅginī (S); षिध
 षिधु V; षिधु is criticized by S. ²³⁰ षृभु षृन्भु । षिभु *(Sk); षिभि *(Sk); सृभु सृन्भु
 KH; षृभु षृन्भु R; षिन्भु सृभु स्त्रिभु स्त्रिन्भु V. ²³¹ षै । षै HVR; सै K. ²³² ष्टक ।
 स्तक *(K); ष्टक HR; ष्टक स्तक V. ²³³ ष्टन । स्तन संवरणे K; ष्टन स्तन H.
²³⁴⁻²³⁵ ष्टै । HVR omit. ष्णौ । ष्णौ HR; स्नै V; शोभायाञ्च *(SK). ²³⁶ ष्टचै ।
 स्तयै K; ष्टचै RV; स्तै ष्टचै H. ²³⁷ ष्ठल । स्थल KCS; ष्ठल HR; ष्ठल स्थितौ स्थल
 स्थाने V. ²³⁸⁻²³⁹ ष्वद स्वर्द । संवरणे K; षदस्वद स्वाद आस्वादने H; ष्वद स्वाद स्वर्द
 प्रीतिलिहोः V. ²⁴⁰ ष्वष्क । ष्वष्क H; ष्वक्क MKR; स्वष्क ष्वक्क V. ²⁴¹ ष्विदा (1) ।
 क्ष्विदा MK; ष्विदा क्ष्विदा H; स्नेहनमोचनयोः R; स्नेहनमोक्षणयोः K; Nandin (S);
 गात्रप्रस्रवणे S; मोहस्नेहमोक्षे V; लृ ष्विदा जि मोक्षे स्नेहे V. ²⁴² ष्विदा (2) । क्ष्विदा
 MKRH; V omits. ²⁴³ सूक्ष्म । सूक्ष्म अनादरे M; सूक्ष्म H. ²⁴⁴ सूक्ष्म । सूक्ष्म । सूक्ष्म R;
 सूक्ष्म H; अनादरे K; सूक्ष्म अनादरे ईर्षे, सूक्ष्म ईर्षे V. ²⁴⁵ सेकृ । श्रेकृ M; षेकृ *(K); सेकृ
 HR; षेकृ सेकृ V. ²⁴⁶ स्कभि । ष्कभि ष्टभि *(M); स्कभि VRH. स्वदिर् । अपपरिभ्याञ्च
 MKH; अवेति श्रीभोजः K; अवेति बोधिन्यासः S; सोपसर्गस्य वा ह्रस्वः V; अवपरिभ्याम्
 R; अपादिति श्रीभीमः R. ²⁴⁷ स्खल । चलने KH; चलने सञ्चये RV; see खल.
²⁴⁸ स्पश । पष पश बाधनस्पर्शनयोः H; पष D(K); पश Kśp(S); बाधनस्पर्शनयोः K;
 ग्रन्थबाधयोः V; स्पर्शबाधयोः Vc. ²⁴⁹ स्फुटिर् । स्फाट स्फुटिर् K; स्फट इति नन्दिस्वामी
 K; स्फुटि *(SK); स्फुटेति चन्द्रः; स्वामिकाश्यपौ तु स्फट स्फुठि स्फुटिरिति त्रीन् धातून्
 पठतः S; स्वामी is obviously नन्दिस्वामी; स्फुट स्फुटिर् विशरणो, स्फुट विकासे H; स्फुट
 विकसने स्फुटिर् विसरणो R; स्फुटिविशरणो स्फुट विकासे, स्फट स्फटि शीर्णौ (i.e. भेदे) V.
²⁵⁰ स्फूर्जा । वज्रनिर्घोषे KR; °निर्घोषे HV. ²⁵¹ स्यन्दू । स्रवणे KR; प्रस्रवणे H; स्रुतौ V.
²⁵² स्रन्भु । स्रन्हु Kśk(K). ²⁵³⁻²⁵⁵ स्रंसु भ्रंसु ध्वंसु । अवसंसने अधःपतने KM; भ्रंसु *(S)

940 स्त्रु गतौ ²⁵⁶ 335 हठ प्लुतिशठत्वयोः ²⁵⁷ 512 हय गतौ ²⁵⁸ 591 हिवि प्रीणने ²⁵⁹
 269 हुडि (1) सङ्घाते ²⁶⁰ 277 हुडि (2) वरणे ²⁶¹ 352 हुड् वरणे ²⁶² 844 हुल गतौ ²⁶³
 285 होड् अनादरे ²⁶⁴ 354 होड् गतौ ²⁶⁵ 622 हेष् हेष् अव्यक्ते शब्दे ²⁶⁶ 934 ह्र
 संवरणे ²⁶⁷

*(SK); भ्रंशु अधःपतने V; भ्रंशु HR; ध्वंशु *(SK). ²⁵⁶ स्त्रु । षु स्त्रु M; शु श्रु स्त्रु K; शु स्त्रु R; श्रु स्त्रु H; षु षुञ् सु सुञ् स्त्रु गतौ. Pāṇinians read श्रु श्रवणे in भ्वादि. K has not included श्रु श्रवणे either in भ्वादि or स्वादि. ²⁵⁷ हठ । प्लुतिशङ्कुबन्धनयोः MK; बलात्कारे HRC(S)D(S); कीलबन्धे बलात्कारे प्लुतौ V. ²⁵⁸ हय । गतिकान्त्योः K; भक्तिशब्दयोरपि S; गतिकलान्त्योः HV; गतौ R. ²⁵⁹ हिवि । इवि R; इवि व्याप्तौ HR; इवि व्याप्तिप्रीणनयोः V; HRV include हिवि also. ²⁶⁰ हुडि (1) । MK omit; आर्या न पठन्ति, द्रविडास्तु पठन्ति Kśp(S). ²⁶¹ हुडि (2) । हरणे *(Sk); HRV omit. ²⁶² हुड् । हरणे M; गतौ HV; हुड् हूड् ह्रूड् ह्रूड् गतौ V. ²⁶³ हुल । हिंसासंवरणयोश्च, चकाराद् गतौ KH; हिंसासंवरणयोः MVR; ह्रल *(S). ²⁶⁴⁻²⁶⁵ होड् । हौड् KH; होड् V. ²⁶⁶ हेष् । हेष् MKHR; हेष् हेष् अस्वानां स्वने V; cf. Amara: हेषा हेषा च निःस्वने. There in his comment K observes हेष् हेष् अव्यक्ते शब्दे. ²⁶⁷ ह्र । संवरणे H; ह्र वरणे KHR. Some editions of SK read ह्र संवरणे. 'ह्र स्थगने' V.

II अदादि

1018 ईर गतौ कम्पने च ¹ 1024 कसि गतिशासनयोः ² 1054 द्रा कुत्सायाम् ³
 1028 पिजि वर्णे ⁴ 1038 पृची सम्पर्चने ⁵ 1066 मृजू शूद्धौ ⁶ 1033 यु मिश्रणे
 अमिश्रणे च ⁷ 1036 वच परिभाषणे ⁸ 1048 वी गतिव्याप्तिप्रजनकान्त्यसनखादनेषु ⁹
 1029 वृजी वर्जने ¹⁰ 1078 षस ¹¹ 1079 षस्ति स्वप्ने ¹²

¹ ईर । गतौ K. ² कसि । कश कस (Kaiyata); कश *SkS; कस *(K); कशि *S; कस-कसि V; गतिनिशानयोः M; गतिशासनयोः HVR; see S for detailed discussion. ³ द्रा । कुत्सितायां गतौ K; कुत्सायां गतौ MSR; कुत्सितगतौ H; स्वप्ने पलायने V. ⁴ पिजि । पृजि *(M); 'सम्पर्चन' इत्येके, उभयत्रेत्यन्ये, अवयव इत्येके अव्यक्तशब्द इतीतरे' SK; अव्यक्तशब्दे Kśp(S); सम्पर्चने HŚ; वर्णपूजयोः V; पृजि अवयवे V. ⁵ पृची । सम्पर्के KMVR; इदिदिति दुर्गकाश्यपनन्दिधनपालादयः, इदितृतीयान्त इति कौशिकः S; पृचि इति द्रमिडाः वेति नन्दिस्वामीति भूवादिसूत्रे सुधाकरः P; शिजि पिजि अव्यक्ते शब्दे Kśp(K); K omits पिजि. ⁶ मृजू । मृजू HRM; मृजूष KV. ⁷ यु । मिश्रणे KMSHR. ⁸ वच । ⁹ वी । 'वी ई' SkS; MKS omit व्याप्ति; H omits गति and व्याप्ति. ¹⁰ वृजी । वृजि *(SK); वृजी D(K). ¹¹ षस । षस स्वप्ने K; षस षसने K(S); 'केचित् षस स्वप्ने इति न पठन्ति' S. ¹² षस्ति । सस्ति ससने इति चैके पेटुः K; सस्ति H; see S.

III ह्रादि

- 1101 कि ज्ञाने¹ 1106 गा स्तुतौ² 1096 घृ क्षरणदीप्त्योः³ 1092 डु धाञ्
 धारणपोषणयोः⁴ 1087 डु भृञ् धारणपोषणयोः⁵ 1086 पृ पालनपूरणयोः⁶
 1083 हु दानादनयोः⁷

¹कि । कि कित MKR; कित मतौ V. ²गा । स्तुतौ च K; चकाराज्जनने. स्तुतौ जन्मनि V. ³घृ । गृ घृ M. ⁴धाञ् । दानधारणयोः K; दाने च *(MSSk); दानधारणपुष्टिषु V. ⁵भृञ् । टु भृञ् *(M); टु भृञ् इति द्रमिडाः KS; टु डु भृञ् HV. ⁶पृ । पृ *(SK); पृ MHR; दीर्घान्तिं केऽपि MR; ह्रस्वान्तोऽप्याणिनीयः S; पृ पालने H; पृ जि पृ पालने V. ⁷हु । आदाने च *(SKM); प्रीणान इति भाष्ये, प्रक्षेपमात्रे S; दाने Ātreya (S); दाने MR; अदाने *R; होमे अदाने V; दानादनयोः H.

IV दिवादि

- 1175 अण प्राणने¹ 1218 कुस संश्लेषणे² 1113 वनसु क्षरणदीप्त्योः³ 1189 क्रुध
 क्रोधे⁴ 1242 क्लिद आर्द्रभावे⁵ 1206 क्षमू सहने⁶ 1244 जि क्षिवदा स्नेहन-
 मोचनयोः⁷ 1170 खिद दैन्ये⁸ 1154 गूरी हिंसागत्योः⁹ 1135 डीड विहायसा
 गतौ¹⁰ 1159 तप ऐश्वर्ये वा¹¹ 1212 तसु उपक्षये¹² 1154 तुष प्रीतौ¹³
 1152 तूरी गतित्वरणहिंसयोः¹⁴ 1195 तृष प्रीणने¹⁵ 1228 तृषा पिपासायाम्¹⁶
 1107 दिवु¹⁷ स्तुतिमोदमदस्वप्नकान्तिगतिषु¹⁷ 1196 दृष हर्षणमोहनयोः¹⁸ 1136 धीड
 आधारे¹⁹ 1122 पुष्प विकसने²⁰ 1216 प्लुष दाहे²¹ 1217 बिस प्रेरणे²²
 1219 वुस उत्सर्गे²³ 1221 मसी परिणामे²⁴ 1142 माड माने²⁵ 1220 मुस
 खण्डने²⁶ 1138 रीड श्रवणे²⁷ 1230 रुष हिंसायाम्²⁸ 1214 वसु स्तम्भे²⁹

¹अण । अन MS(S)RH. ²कुस । श्लेषणे MKR. ³वनसु । क्षरणे M; ह्वरणे V. ⁴क्रुध । कोपे MKS. ⁵क्लिद । आर्द्रभावे K; क्लिद HV. ⁶क्षमू । क्षमूष K; क्षमू इति सभ्याः K; क्षमु RV; क्षमू H; see S. ⁷क्षिवद । क्षिदा V; °मोहनयोः K; मोचने R. ⁸खिद । D(K). ⁹गूरी । (D)K; गतौ H; हिंसायाम् R. ¹⁰डीड । गतौ KHRV. ¹¹तप । पत *(M); पत इति द्रमिडाः K; उपतापे ऐश्वर्ये V. ¹²तसु । प्रक्षेपे M; उत्क्षेपणे V. ¹³तुष । तुष्टौ M. ¹⁴तूरी । त्वरणहिंसयोः MR; त्वरणहिंसनयोः S; त्वरायाम् H; स्यदे हिंसे V. ¹⁵तृष । प्रीतौ K. ¹⁶तृषा । जि तृष KSV. ¹⁷दिव । °मोदमदस्वप्नकान्ति° omitted in KHRV. ¹⁸दृष । °मोचनयोः M; जि दृष हर्षणमोहनयोः V. ¹⁹धी । अनादरे MRH; आदाने S; आधारेऽनादरे V. ²⁰पुष्प । विकासे K. ²¹प्लुष । K omits. ²²बिस । विस M. ²³वुस । वुस MRH. ²⁴मसी । परिमाणे MSR; परिमाणे परिणामे V. ²⁵माड । D(K); see S. ²⁶मुस । मुष Ātreya (S). ²⁷री । श्रवणे KHRV. ²⁸रुष । रोषे MKS. ²⁹वसु ।

1160 वृत वरणे ³⁰ 1215 व्युष विभागे ³¹ 1126 ब्रीड चोदने लज्जायाञ्च ³²
 1165 शुचिर् पूतीभावे ³³ 1128 षह ³⁴ 1129 षह चक्यर्थे ³⁵ 1132 षूड
 प्राणिप्रसवे ³⁶ 1120 ष्ठिवु निरसने ³⁷ 1112 ष्णसु निरसने ³⁸ 1111 ष्णसु
 अदने ³⁹ 1188 ष्विदा गात्रक्षरणे ⁴⁰ 1229 हृषु तुष्टौ ⁴¹

वसु *(SK). ³⁰ वृत । वृतु H; वावृतु MKR; वावृतु *(S); वृत वावृतु V. ³¹ व्युष ।
 वुस *(SK); व्युस *(Sk); प्युस KH; पुस K; प्युस D(K); प्युष R; प्युष प्युस V; प्युष पुस
 प्युस H. ³² ब्रीड । चोदने MKSR; लज्जायाम् H; क्षेपणे लज्जायाम् V. ³³ शुचिर् । ई
 शुचिर MKSVR; शोचे विशरणे क्लेदे V. ³⁴⁻³⁵ षह षूह । शक्यर्थे MK; see S; शक्तौ RH;
 षह शक्तौ षुह तृप्तौ शक्तौ V. ³⁶ षूड । अप्राणिप्रसवेऽपि M; सूतौ V. ³⁷ ष्ठिवु । K omits;
 केचिदिहेमं न पठन्ति Sk; दिवादिष्वपि केचिदधीयते—Nyāsa on 6.1.54. ³⁸ ष्णसु । ष्णसु
 H; ष्णसु *(S); ष्णसु इतिस्वामिकाश्यपौ S. ³⁹ ष्णसु । आदाने *(SSk); अदर्शने *(SK);
 H. omits; ष्णसु Kśp(S)R. ⁴⁰ ष्विदा । जि ष्विदा V; see S. ⁴¹ हृषु । हृष K; 'हृषु'
 इति नन्दी K.

V स्वादि

1264 अशू व्याप्तौ संघाते [1276 क्षि हिंसायाम्] ¹ 1266 तिक ² 1267 तिग
 गतौ च ³ 1273 दघ घातने पालने च ⁴ 1270 दन्भु दम्भने ⁵ 1275 रि ⁶ 1276 क्षि
 हिंसायाम् ⁷ 1263 साध संसिद्धौ ⁸ 1259 स्पृ प्रीतिपालनयोः ⁹

¹ अशू । व्याप्तौ KMHR; संघाते च MV. ²⁻³ तिक तिग । चकारादास्कन्दने. 'तिक
 तिग च' SMK, i.e. only आस्कन्दने; हिंसायाम् RHV; आस्कन्दनेऽपि HV. ⁴ दघ ।
 घातने MKV; षघ हिंसायाम् HR; षघ सघ हिंसायाम् V; HR do not read दघ. ⁵ दन्भु ।
 दम्भे MK. ⁶⁻⁷ रि क्षि । ऋक्षि K; ऋ *(K); क्षि *(K); ऋक्षि *(Sk); रिक्षि *(Sk);
 HRV omit. ⁸ साध । षाध K; साध *(K); साध HV; षाध *(H); षाध साध V. ⁹ स्पृ ।
 प्रीतिपालनयोः R; स्मृ H; स्पृ *(H); पृ प्री स्मृ (दुर्गरामौ) Vc; स्पृ प्रीतिरक्षापालने V.

VI तुदादि

1129 इष इच्छायाम् ¹ 1304 उज्झ उत्सर्गे ² 1296 ऋच्छ गतीन्द्रियप्रलयमूर्तिभावेऽपु ³
 1380 कड मदे ⁴ 1401 कुड शब्दे ⁵ 1368 कुच सङ्कोचने ⁶ 1382 कृड घनत्वे ⁷
 1394-95 क्रुड भृड निमज्जने ⁸ 1436 खिद परिघाते ⁹ 1342 खुर छेदने ¹⁰ 1399 गु

¹ इष । इषु MKR; see S. ² उज्झ । उद्भ HR; see S. ³ ऋच्छ । KMH omit गति;
 °भावयोः KRH; गतावपि H; मृतौ गमनमोहयोः V. ⁴ कड । घसने K; अदने V; कूड
 घसने R; कृड H. ⁵ कुड । कूड *(MK); कूड कुड HS; कुड कूड आर्तस्वरे V; see S.
⁶ कुच । सङ्कोचे K. ⁷ कृड । MV omit; घसने H; घनत्वे *(H). ⁸ क्रुड भृड । एके SK;
 भृड *(M); ध्रुड *M; SHVR omit; दुड हुड K; क्रुड *(K). ⁹ खिद । परितापे K. ¹⁰ खुर ।

पुरीषोत्सर्गो¹¹ 1396 गुरी उद्यमने¹² 1385 घुट प्रतिघाते¹³ 1299 चर्च¹⁴
 1298 जर्ज¹⁵ 1300 भर्भ परिभाषणभर्त्सनयोः¹⁶ 1356 चल विलसने¹⁷
 1391-93 चुड वुड स्फुड संवरणो¹⁸ 1324 चृती हिंसाश्रन्थनयोः¹⁹ 1418 छुप स्पर्शो²⁰
 1379 जुट बन्धने²¹ 1326 जुड गतौ²² 1282, 1426 गुद प्रेरणो²³ 1397 गु
 स्तवने²⁴ 1354 तिल स्नेहे²⁵ 1307 तृप तृप्तौ²⁶ 1387 थुड²⁷ 1388 स्थुड
 संवरणो²⁸ 1313 दृप उत्क्लेशे²⁹ 1406 धि धारणो³⁰ 1412 धृङ् अवस्थाने³¹
 1384 पुड उत्सर्गो³² 1333 पुण कर्मणि शुभे च³³ 1390 फुल सञ्चलने³⁴
 1359 बिल भेदने³⁵ 1374 मुट आक्षेपमर्दनयोः³⁶ 1306 रिफ कथनयुद्धनिन्दाहिंसा-
 दानेषु³⁷ 1290 ओलजी व्रीडायाम्³⁸ 1433 लिप उपदेहे³⁹ 1381 लुट संश्लेषणो⁴⁰
 1431 लुप्लृ छेदने⁴¹ 1358 विल संवरणो⁴² 1330 वृण प्रीणने⁴³ 1347 बृह
 सद्यमने⁴⁴ 1293 व्यच व्याजीकरणो⁴⁵ 1427 षड्लृ विशरणगत्यवसादनेषु⁴⁶ 1346 पुर

विलेखने KR; खण्डने च M; छेदने विलेखने HR. ¹¹गु। गू K; गु गू V. ¹²गुरी।
 उद्यमे M. ¹³घुट। गुड K; घुट D(K). ¹⁴⁻¹⁶चर्च जर्ज भर्भ। चर्च जर्च भर्च MR; H
 omits चर्च; चर्छ K; चर्च D(K); जर्च जर्ज भर्च भर्भ H; चर्च जर्च भर्च जर्छ भर्छ जर्ज
 जर्भ भर्भ V. ¹⁷चल। विकसने *(M); विकसने H. ¹⁸चुड वुड स्फुड। चुड omitted by
 VH; वुड M; भ्रुड K; वुड वुड R; वुड भ्रुड संवृतिसंहत्योः; वुड मज्जने च V; वुड भ्रुड
 संघाते, संवरणोऽप्यन्ये H; स्फुड omitted by H. ¹⁹चृती। °ग्रन्थयोः M; ग्रन्थनयोः S.
²⁰छुप। चुप *(K). ²¹जुट। जुड MKSRH; V omits both. ²²जुड। जुट *(S); जुन
 KH; जुड जुन V. ²³गुद। नुद M. ²⁴गु। स्तवे K; गु Atreya (S). ²⁵तिल। स्नेहने
 MK. ²⁶तृप। तृफ MK; तृप *(K); तृन्प *K; तृप इति वामनः M; तृप तृम्प V; तृफ वधे
 V; तृफ तृन्फ H. ²⁷⁻²⁸थुड स्थुड। खुड *(SK); छुड *(SK); षुड S; स्फुड S; थुड स्थुड
 स्फुड V; थुड स्थुड H; ²⁹दृप। दृफ MKR; दृप इति वामनः M; दृफ दृन्फ उत्क्लेशे
 VH. ³⁰धि। विधारणो M. ³¹धृङ्। स्थाने K. ³²पुड। पुट H; पुड *(H); KV omit.
³³पुण। कर्मणि शब्दे च K; शुभे HR; धर्मे V. ³⁴फुल। स्फुल चलने सञ्चये च
 K; स्फुल स्फुरणो सञ्चये च RH. ³⁵बिल। विल M. ³⁶मुट। °प्रमदनयोः K; प्रमर्दनयोः
 SH; आक्षेपे क्षोदे V. ³⁷रिफ। 'ऋफ कथनयुद्धहिंसादानेषु' रिह इति द्रमिडाः K; MH
 omit निन्दा. (रिह लुह) तु धातुषु न पठ्येते. कैश्चिदभ्युपगम्येते... Kāśikā, 7.2.10.
 Nyāsa remarks कैश्चिदिति आपिशलिप्रभृतिभिः निन्दा. श्लाघहिंसानिन्दायुद्धेषु V.
³⁸ओलजी ओलस्जी। व्रीडे M; नजि C(K)V. ³⁹लिप। ⁴⁰लुट। लुड *(SRŚ); लुठ
 M; लुठ *(K); विलोडने D(K); लुड संवरणो श्लेषे V. ⁴¹लुप्। छेदने K. ⁴²विल।
 बिल M. ⁴³वृण। MK omit; see S. ⁴⁴बृह। उद्यमे MK; बृह *(S). ⁴⁵व्यच। व्यज
 K; व्यच सम्भवे K. ⁴⁶षड्। विशरणो MR; विसरणो MD., also Atreya (S); अवसादने H;

ऐश्वर्यदीप्त्योः ⁴⁷ 1149 स्तृन्ह हिंसार्थे ⁴⁸ 1422 स्पृश संस्पर्शने ⁴⁹ 1389 स्फुर ⁵⁰
1390 स्फुल सञ्चलने ⁵¹ 1391 हिल भावकरणे ⁵²

विषादे हिंसायां गतौ V. ⁴⁷ षुर । सुर KRH; षुर *H; षुर सुर V. ⁴⁸ स्तृन्ह । K omits. ⁴⁹ स्पृश । संस्पर्शे MK. ⁵⁰⁻⁵¹ स्फुर स्फुल । स्फुर चलने स्फुल सञ्चलने इत्येके Sk; स्फर इत्यन्ये SK, also M; स्फुरणो सञ्चलने दीप्तौ च M; स्फर स्फुर स्फल स्फुल चलने K; स्फर स्फल स्फुरणो, स्फुर स्फुरणो चलने इत्यन्ये, स्फुल सञ्चये च H; स्फर स्फल स्फुर स्फुरणो चलने, स्फुल स्फुरणो चलने सञ्चये च V. ⁵² हिल । हावकरणे MKRHV.

VII रुधादि

1458 अञ्जू व्यक्तिमर्षणकान्तिगतिषु ¹ 1443 क्षुदिर् सम्पेषणे ² 1459 तञ्चु सङ्कोचने ³
1455 तृह हिंसायाम् ⁴ 1461 वृजी वर्जने ⁵ 1451 शिष्लु विशेषणे ⁶

¹ अञ्जू । अक्षरा for मर्षण MKSHRV; कान्ति omitted by KSHRV. ² क्षुदिर् । सम्पेषे K. ³ तञ्चु । तञ्चु RV; तञ्जू K; तञ्चू इति द्रमिडाः K; तञ्चू MSH. ⁴ तृह । तृहि K. ⁵ वृजी । वृची वरणे H; दुर्गादयः S; वृजी वरणे *(H); वृजी वर्जने *(H); वृची वृत्तौ, वृजी वर्जने वृत्तौ V. ⁶ शिष्लु । विशरणे M.

VIII तनादि

1467 ऋणु गतौ ¹ 1466 क्षिणु हिंसायाम् ² 1468 तृणु अदने ³

¹ ऋणु । दीप्तौ गमने M; V omits. ² क्षिणु । SMV omit. D(K) क्षणु क्षिणु HR. ³ तृणु । चृणु (नन्दी) K; V omits.

IX क्रयादि

1524 उध्रस उञ्छे ¹ 1514 कुन्थ संश्लेषणे ² 1496 कृञ् हिंसायाम् ³ 1506 क्षीष हिंसायाम् ⁴ 1531 खच भूतप्रादुर्भावे ⁵ 1512-13 अन्थ ग्रन्थ सन्दर्भे ⁶ 1494 जृ वयोहानौ ⁷ 1492 नृ नये ⁸ 1474 प्रीञ् तर्पणे कान्तौ च ⁹ 1527 प्रूष स्नेहनमोचन-पूरणेषु ¹⁰ 1503 प्ली गतौ ¹¹ 1491 भृ भर्त्सने ¹² 1505 श्री भये ¹³ 1516 मृड

¹ उध्रस । उ ध्रस SHRV. ² कुन्थ । कुथ (D)(SR); कुथि (D)K; श्लेषणे K; संक्लेशे H; संक्लेशने R; श्लेषे क्लेशे N. ³ कृञ् । कृञ् *K. ⁴ क्षीष । क्षिष KH; V omits. ⁵ खच । खव KHR; खव *(MSR); खु *(M); खच *(R); खच इति दौर्गाः K; खच K(S); खच खव भूतिपूत्योरुत्पत्तौ V. ⁶ अन्थ ग्रन्थ । ग्रन्थ KSH; अन्थ ग्रन्थ K(P). ⁷ जृ । जृ भृ H; भृ *(SK); धृ *(SK); चृ *(M); अयं धातुर्नास्तीति भाष्यवार्तिकवृत्तिन्यासपदमञ्जर्यादिषु S. ⁸ नृ । न्वी *(M). ⁹ प्रीञ् । तर्पणे M. ¹⁰ प्रूष । प्रुष MKSHR; स्नेहसेचनपूरणेषु HR. ¹¹ प्ली । प्ली च, i.e. श्लेषणे M; ल्वी K; ब्ली *(S); see S. ¹² भृ । भरणे च *(SK); भर्त्सने च KH; भर्त्सने R; हृर्धने *(RC); वरणे भरणे भर्त्सने V. ¹³ श्री । भरणे MKH; भरणे

क्षोदे ¹⁴ 1495 मृ हिंसायाम् ¹⁵ 1490 वृ वरणे ¹⁶ 1498 शृ हिंसायाम् ¹⁷ 1510 अन्थ
विमोचनप्रतिहर्षयोः ¹⁸ 1478 स्कुञ् आप्रवणे ¹⁹ 1484 स्तृञ् आच्छादने ²⁰

*(S); भये भरणे V. ¹⁴मृड । सुखे च SSK; सुखने KHR; मोदे V. ¹⁵मृ । मृ *(M).
वृ । भरणे *(SK); वृ भृ भरणे KH; वृ वरणे, वृ वरणे भरणे V. ¹⁷शृ । शृञ् K.
¹⁸अन्थ । मोचनहर्षयोः M; विमोचनहर्षयोः K. ¹⁹स्कुञ् । आप्लवने MR, so also भट्टमल्ल;
उद्धरणे V. ²⁰स्तृञ् । छादने K.

X चुरादि

1927 अङ्क पदे लक्षणो च ¹ 1928 अङ्ग च (=पदे लक्षणो च) ² 1785 अजि भाषार्थे ³
1925 अन्ध दृष्ट्युपघाते ⁴ 1644 अर्क स्तवने ⁵ 1726 अर्ज प्रतियत्ने ⁶ 1905 अर्थ
उपयाच्यायाम् ⁷ 1831 अर्ह पूजायाम् ⁸ 1918 अंस समाघाते ⁹ 1743 उध्रस उञ्छे ¹⁰
1549 ऊर्ज बलप्राणधारणयोः ¹¹ 1542 ओलडि उत्क्षेपणे ¹² 1582 कडि भेदने; see
खड खडि कडि ¹³ 1915 कत्र शैथिल्ये ¹⁴ 1852 कथ वाक्यप्रबन्धे ¹⁵ 1640 कीट वरणे ¹⁶
1558 कुट्ट छेदनभर्त्सनयोः ¹⁷ 1703 कुट्ट प्रतापने ¹⁸ 1583 कुडि रक्षणे ¹⁹ 1539 कुट्टि

¹अङ्क । लक्षणो MH; अकि लक्षणो K; अङ्क पदे लक्षणो, अकि लक्ष्मणे V. ²अङ्ग ।
अङ्ग *(K). ³अजि । As many as 54 roots (1749-1802) are placed together, all in
भाषार्थ (SSKM) but KHV read भासार्थ. The readings are varying as will be seen
from the alphabetically arranged list which follows. कुप कुशि कुसि घटि चीव एद
तर्ज तुजि त्रसि दशि धूप पट पिजि पुट पुथ लघि लुजि लुट लोक लोचृ विच्छ वृतु वृधु
are common to all four. चि जि रुसि and नल are in SK only; K adds बहि, M adds
लट and भुजि. S reads जुचि for चि जि of Sk. The others are अजि SK; अहि SK;
गुप SM (गुपू K); घट SM; तुडि *(KS); तडि *(K) for तुड; दसि SK; नट S; नट
*(K); नडि K(S); पिसि *(SMK); पुटि S; बर्ह K (वर्ह SM); बल्ह K (वल्ह SM); बृहि
*(K) (वृहि SM); भजि SM *(K); भृशि S; महि SK; मिजि SM; रघि SK; रहि S; रुट
K; रुठ S; रुशि S; लजि SK; लडि *(K); शीक S. ⁴अन्ध । दृष्ट्युपसंहारे KH. ⁵अर्क ।
तपने *(K); तपने स्तवने V. ⁶अर्ज । अर्जने च S; संस्कारे V. ⁷अर्थ । याच्यायाम्
M. ⁸अर्ह । MS omit. ⁹अंस । अंश HKR; अंस (?) अंश अंस V. ¹⁰उध्रस । ध्रस
*(SK)R; उ ध्रस M(S); ध्रस R; ध्रस उत्क्षेपे H; ध्रस उञ्छे V; उ ध्रस उत्क्षेपे
उञ्छे V. ¹¹ऊर्ज । बलप्राणनयोः MKH. ¹²ओलडि । उत्क्षेपे K; उ लडि *SK;
ओलडि, ओ लडि V; लडि *D(K); लडि *(R); लन्दि also C(K). ¹³कडि । ¹⁴कत्र ।
कत्र H; कर्त्र R.D(K); अनार्षम् K; कर्तृ KC(K); कर्त *(Sk); कत्र कर्त D(S); कत्र
कर्त्र कर्त Deva, V. ¹⁵कथ । ¹⁶कीट । वरणे K; बन्धने MR; वर्णने H; बन्धने वर्णे
V. ¹⁷कुट्ट । छेदने कुत्सने KHV; पुरणोऽपि केचित् KSk; छेदने जिनेन्द्रदुर्गौ S;
छेदने R. ¹⁸कुट्ट । K(S); कुट KH; कुट कुट्ट V. ¹⁹कुडि । कुटि *K(S); कुट्टि *(K);

अनृतभाषणे ²⁰ 1656 कुबि आच्छादने ²¹ 1711 कुस्म नाम्नो वा कुत्सितस्मयने ²²
 1702 कूट आप्रदाने ²³ 1891 कूट परितापे ²⁴ 1688 कूण सङ्कोचे ²⁵ 1749 कृपेशच ²⁶
 1891, 1895 केत श्रावणे निमन्त्रणे आमन्त्रणे ²⁷ 1727 आडः क्रन्द सातत्ये ²⁸
 1580-82 खड खडि कडि भेदने ²⁹ 1875 खेट भक्षणे ³⁰ 1876 खोट क्षेपे ³¹
 1861 गदी देवशब्दे ³² 1665 गर्द शब्दे ³³ 1846 गर्ह विनिन्दने ³⁴ 1700 गल
 स्रवणे ³⁵ 1584 गुडि वेष्टने ³⁶ 1666 गुर्द पूर्वनिकेतने ³⁷ 1695 गूर उद्यमने ³⁸
 1708 गृ विज्ञाने ³⁹ 1826 ग्रन्थ बन्धने ⁴⁰ 1750 ग्रस ग्रहणे ⁴¹ 1893 ग्राम
 आमन्त्रणे ⁴² 1724 घट सङ्घाते ⁴³ 1726 घुषिर् विशब्दने ⁴⁴ 1651 घृ प्रस्रवणे ⁴⁵
 1722 चट भेदने ⁴⁶ 1619 चपि गत्याम् ⁴⁷ 1746 चर संशये ⁴⁸ 1627 चह
 परिकल्कने ⁴⁹ 1867 चह परिकल्कने ⁵⁰ 1795 चिञ् चयने ⁵¹ 1917 चित्र
 चित्रीकरणे ⁵² 1828 चीक आमर्षणे ⁵³ 1313 चुट छेदने ⁵⁴ 1660 चुटि छेदने ⁵⁵

कुठि $\acute{S}(S)$; गुडि K. ²⁰ कुद्रि । कुद्र KSk \acute{S} ; कुडि $*(Sk)$; गुद्रि: पारायणे K; कुद्रि गुद्रि HV. ²¹ कुबि । कुपि छादने K; कुबि K $\acute{s}k(K)$; कुभि $*(S)$; कुभि $*(SR)$; छादने R. ²² कुस्म । नाम्नो वा KSM; कुस्मयने RH, D(K); बुद्धिपूर्वकदर्शने ईषद्धास्ये VC. ²³ कूट । आप्रदाने D(K); अप्रमादे MH; प्रतापने $*(M)$; अप्रमादे अप्रदाने V; अवसादने $*(Sk)$. ²⁴ कूट । परिदाहे आमन्त्रणे M; परिदाहे $*(S) *(SK)$; दाहे KR; दाहे मन्त्रे V. ²⁵ कूण । सङ्कोचने MKSR; कूण $*(S)$; कूण चूण तूण V. ²⁶ कृपि । चकारादवकल्कने. तादर्थ्ये K; कृप अवकल्कने D(K)RH; क्लृपि S; क्लृप M. ²⁷ केत । (S reads: सङ्केत); विश्रावणे निमन्त्रणे (केचित्), आमन्त्रणे K; आमन्त्रणे RH; मन्त्रणे निश्रावणे V. ²⁸ आक्रन्द । क्रन्देरर्थे according to M says S which M does not, however, explain; सातत्ये, शब्दसातत्ये V. ²⁹ खड खडि कडि । कडि $*(K)$; कडि भेदे रक्षणे V. ³⁰ खेट । खेट D(K); खोट $*(SK)$; खेट खेड V. ³¹ खोट । खोट K; खोट: पाठभेद: K; खोट S; खोट खोट गत्याघाते V. ³² गदी । गद शब्दे C; गद गर्जे VH. ³³ गर्द । गर्ज $*(K)$; गर्ज R; गर्ज गर्द V. ³⁴ गर्ह । निन्दायाम् S. ³⁵ गल । स्रावणे K. ³⁶ गुडि । गुठि $*(SK)$; गुठि K; कुठि $*(SKS)$; गुडि रक्षणे K; गुठि गुडि HV. ³⁷ गुर्द । गुर्द पूर्वनिकेतने इति पारायणे K, so also others; see S; पूर्व गुर्द गूर्द निकेतने V. ³⁸ गूर । उद्यमे K; गुरी $*S$; गुरी KR; गूर HV. ³⁹ गृ । गृ KRH; कृ C; कृ विज्ञाने गृ विज्ञापने च V. ⁴⁰ ग्रन्थ । K omits. ⁴¹ ग्रस । ग्रासे V. ⁴² ग्राम । K omits; ग्राम मन्त्रे VR. ⁴³ घट । भेदने K; सङ्घाते D(K)R; सङ्घाते हिंसे V. ⁴⁴ घुषिर् । विशब्दने RHV; अविशब्दने RHM; घुष K $\acute{s}k(K)$. ⁴⁵ घृ । घृ सृ आवरणे इति पुर्वे पेटुः, घर स्रवणे इति दुर्गः K; सम्प्रस्रवणे M; स्रवणे H; सेके छादने V. ⁴⁶ चट । भेदे KRHV; आस्फुटौ D(K). ⁴⁷ चपि । छपि KRHV. ⁴⁸ चर । असंशये D(K)RH; संशये असंशये V. ⁴⁹⁻⁵⁰ चह । कल्कने KH; चप RM; चप $*(SK)$; चह शाठ्ये, कल्के V. ⁵¹ चिञ् । चये K; M omits. ⁵² चित्र । चैत्रस्य करणे K; चित्रकरणे S. ⁵³ चीक । आमर्षणे RH; मर्षणे M; मर्शने V. ⁵⁴ चुट । मुट (D)K; चुट छुट RV. ⁵⁵ चुटि । छुट K; चुडि (नन्दी) K;

1560 चुटु अल्पीभावे ⁵⁶ 1642 चूर्णं सङ्कोचने ⁵⁷ 1747 च्यु सहने ⁵⁸ 1622 छजि
 कृच्छ्रजीवने ⁵⁹ 1577 छदि संवरणे ⁶⁰ 1833 छद (1) अपवारणे ⁶¹ 1935 छद (2) अपवारणे ⁶²
 1924 छिद्र कर्णभेदने ⁶³ 1821 छृदी सन्दीपने ⁶⁴ 1717 जभि नाशने ⁶⁵ 1543 जल
 अपवारणे ⁶⁶ 1667 जसि रक्षणे ⁶⁷ 1719 जसु ताड़ने ⁶⁸ 1835 जुष परितर्कणे ⁶⁹
 1625 ज्ञप ज्ञानज्ञापनमारणतोषणनिशाननिशामनेषु ⁷⁰ 1733 ज्ञा नियोगे ⁷¹ 1816 जि
 वयोहानौ ⁷² 1677-78 डप डिप संघाते ⁷³ 1579 तड आघाते ⁷⁴ 1679 तत्रि
 कुटुम्बधारणे ⁷⁵ 1841 तनु श्रद्धोपकरणयोः ⁷⁶ 1682 तर्ज तर्जने ⁷⁷ 1598 तल
 प्रतिष्ठाकरणे ⁷⁸ 1730 तसि भूषायाम् ⁷⁹ 1653 तिज निशाने ⁸⁰ 1566 तुजि
 हिंसाबलादाननिकेतनेषु ⁸¹ 1943 तुत्थ आवरणे ⁸² 1958 तुबि अदर्शने ⁸³ 1690 तूण
 पूरणे ⁸⁴ 1820 तूप तृप्तौ ⁸⁵ 1742 त्रस धारणे ⁸⁶ 1699 त्रुट ⁸⁷ 1926 दण्ड
 दण्डनिपातने ⁸⁸ 1676 दसि दर्शनहिंसयोः ⁸⁹ 1725 दिवु मर्दने ⁹⁰ 1823 दृभ सन्दर्भे ⁹¹

चुटि *R; चुटि चुडि H. ⁵⁶ चुटु । पृटु *K; चुटु पृटु (D)KRHV. ⁵⁷ चूर्ण । चूर्ण चूर्ण *K;
 चूर्ण R; तूर्ण C; HV omit. ⁵⁸ च्यु । सहने H; हसने SR; सहने *S; हासे सहने V; च्युस
 *SkK; च्युस हानौ V. ⁵⁹ छजि । क्षजि KRVH. ⁶⁰ छदि । छद K; छदि is not admitted
 by HRV. ⁶¹ छद (1) । संवरणे KRVH; अपवारणे SM. ⁶² छद (2) । अपवारणे KH;
 अपवारणे *S; not admitted by MVR; छद (1) is आधृषीय or यौजादिक having optional
 णिच्. छद (2) is अदन्त. ⁶³ छिद्र । करण भेदने *SK; छिद्र कर्णभेदने SK *MRKHV.
⁶⁴ छृदी । दृप K; छृद *K; छृप (K)S; छृद (Dh)SSVH; छृदी *H. ⁶⁵ जभि । जभ (C)K;
 see S. ⁶⁶ जल । लज इति नन्दिसम्मताकारौ S. ⁶⁷ जसि । मोक्षणे *SK. ⁶⁸ जसु । जस KHV;
 जश (D)K; जस बधे अनादरे V. ⁶⁹ जुष । परितर्पणे KM; परितर्कणे SHR; तर्के तृप्तौ V.
⁷⁰ ज्ञप । K omits ज्ञानज्ञापन and निशान and adds मिच्च; मिच्च *SK; ज्ञप मिच्च
 MSR; S adds ज्ञपमारणतोषणनिशामनेषु मिच्चेति शाकटायनानुसारिणः S; मारणतोषण-
 निशाने मिच्च H. ⁷¹ ज्ञा । नियोजने KM; प्रेरणे V; मारणादिनियोजनेषु H. ⁷² जि ।
 HM omit; जू K; जि वेति नन्दी K; अभिभवे V. ⁷³ डप डिप । डपि डिपि KH; डप डिपि
 डिप डिपि HV; डप डिप R. ⁷⁴ तड । तट *K; तट आघाते, तड आघाते दीप्तौ V.
⁷⁵ तत्रि । तत्रि कुटुम्ब KS; कुटुम्ब is admitted by CHVR, etc., also. ⁷⁶ तनु । श्रद्धोपतापयोः
 R; श्रद्धोपघाते H; वन श्रद्धोपहिंसनयोरिति चान्द्रं पारायणम् K; चन श्रद्धोपहननयोः *SK;
 श्रद्धोपहिंसनयोः *S; वनतनु श्रद्धाहिंसशब्दोपतापेषु V. ⁷⁷ तर्ज । सन्तर्जने KM. ⁷⁸ तल ।
 प्रतिष्ठायाम् M. ⁷⁹ तसि । K omits. ⁸⁰ तिज । निशातने M. ⁸¹ तुजि । तुज *(Sk); लजि
 *(SK); दीप्तिहिंसा° V. ⁸² तुत्थ । K omits. ⁸³ तुबि । अर्दने *(SK); अर्दने RH; तुपि तुबि
 अर्दने MV. ⁸⁴ तूण । तूल C(K). ⁸⁵ तूप । सन्दीपने KV; प्रीणने RH; चृत *(K). ⁸⁶ त्रस ।
 K notes त्रस वारणे इति दुर्गः, धारणे इति नन्दी, ग्रहणे इत्येके; वारणे D(K)RHS ग्रहणे
 (नन्दी) S; धारणे ग्रहणे वारणे V. ⁸⁷ त्रुट । त्रुड *(K); कुट *K(S); कुट *(SK);
 विदीर्णीभावे लूनीभावे च VC. ⁸⁸ दण्ड । निपातने M. ⁸⁹ दसि । दर्शनदंशनयोः M; दंस
 दशनदर्शनयोः H; दस इत्यप्येके SK; दृस दसि दसनदर्शनयोः (भट्टभास्कर) S; दसि भासि,
 दसि दृशौ दंशे V. ⁹⁰ दिवु । अर्दने KMR; दिव अर्दने HV; रोदने (भट्टमल्ल). ⁹¹ दृभ ।

- 1822 दृभी ग्रन्थे ⁹² 1640 धूस कान्तिकरणे ⁹³ 1851 धूष प्रसहने ⁹⁴ 1914 धेक दर्शने ⁹⁵ 1593 नक्क नाशने ⁹⁶ 1545 नट अवस्पन्दने ⁹⁷ 1687 निष्क परिमारे ⁹⁸ 1550 पक्ष परिग्रहे ⁹⁹ 1615 पडि नाशने ¹⁰⁰ 1862 पत गतौ वा ¹⁰¹ 1939 पर्ण हरितभावे ¹⁰² 1882 पल्यूल लवनपवनयोः ¹⁰³ 1720 पश बन्धने ¹⁰⁴ 1862 पष अनुपसर्गाद् गतौ ¹⁰⁵ 1661 पसि नाशने ¹⁰⁶ 1609 पाल रक्षणे ¹⁰⁷ 1576 पिछ कुट्टने ¹⁰⁸ 1567 पिजि हिंसाबलादाननिकेतनेषु ¹⁰⁹ 1570 पिडि संघाते ¹¹⁰ 1544 पीड अवगाहने ¹¹¹ 1601 पुल महत्त्वे ¹¹² 1637 पूल संघाते ¹¹³ 1807 पृच संयमने ¹¹⁴ 1554 पृथ प्रक्षेपे ¹¹⁵ 1548 पृ पूरणे ¹¹⁶ 1547 बध संयमने ¹¹⁷ 1966 बस्क दर्शने ¹¹⁸ 1606 बिल भेदने ¹¹⁹ 1599 बुस्त आदरानादरयोः ¹²⁰ 1664 ब्रूस हिंसायाम् ¹²¹ 1683 भर्त्स तर्जने ¹²² 1701 भल आभरणे ¹²³ 1748 भू अवकल्कने ¹²⁴ 1845 भू प्राप्तावात्मनेपदी ¹²⁵ 1731 भूष अलङ्करणे ¹²⁶ 1691 भ्रूण आशाविशङ्कयोः ¹²⁷

K omits; अमुं वहवो न पठन्ति P; स्तम्भने V. ⁹² दृभी । भये KSRV; दर्भी H. ⁹³ धूस । धूष K; धूष *(M); धूस इति दौर्गाः K; धूश Kśp(S)H; धूश धूस V. ⁹⁴ धूष । अप्रसहने K, but says प्रसहन इति युक्तम्. प्रसहने H; प्रहसने R (=अभिभवे); धूषा *(H); धूषा Ś; धूष शक्तिबन्धे, धूषा अमर्षे V. ⁹⁵ धेक । एके SSK; व्लेष्क KH; Sk notes विष्क दर्शने; व्लेष्क दर्शने कर्तृशैथिल्ये *(K); व्लेक्ष दृशि V. ⁹⁶ नक्क । एक्क K. ⁹⁷ नट । अवस्पन्दने KHR; नड इति नन्दी K; नाटचे C(S). ⁹⁸ निष्क । शिष्क M. ⁹⁹ पक्ष । एके K. ¹⁰⁰ पडि । HK omit पडि विभाजने केचित् SK; पडि पिडि संहतौ V. ¹⁰¹ पत । 'वा' means वा अदन्तः Sk; ऐश्वर्ये *(K); वा केचिन्न पठन्ति P; पत गतौ R; ऐश्वर्ये गतौ V; पत गतौ वा, वा शब्दो शिजदन्तत्वयोर्युगपद् विकल्पार्थः H. ¹⁰² पर्ण । K omits. ¹⁰³ पल्यूल । लवनपतनयोः D(K); वल्यूल D(K)H; पल्यूल पल्युल वल्यूल वल्युल V; S reads पल्लूल. ¹⁰⁴ पश । पष D(K); पस *(R); पश पष M; पस *(H); पश पष पस V. ¹⁰⁵ पष । ¹⁰⁶ पसि । पशि *(R). ¹⁰⁷ पाल । पल KMRH; पाल SC(K); पल पाल V. ¹⁰⁸ पिछ । पिच्च KRHV. ¹⁰⁹ पिजि । पिज *(Sk); लुजि *(SK); पिजि लुजि K; HR read दान for आदान. ¹¹⁰ पिडि । पडि *(K). ¹¹¹ पीड । अवगाहने D(K)R; गहने (=बाधायाम्) KH; बाधे विलोडने V. ¹¹² पुल । समुच्छ्राये KH. ¹¹³ पूल । पूर्ण (KśK)P; पूर्ण SP; पूर्ण *(K); पूण Ś(D)H; पूल पुन V. ¹¹⁴ पृच । पृची सम्पर्चने K; सम्बन्धने KD; पृच HV; पृची R. ¹¹⁵ पृथ । पर्थ प्रक्षेपणे K; पृथ *(K); पथ *(Sk); पथ also *(K(S)); पर्थ *(H); पार्थ *(H). ¹¹⁶ पृ । पृ D(K)RH; पृ पृ V. ¹¹⁷ बध । बन्ध CR; बध बन्ध HV. ¹¹⁸ बष्क । व्लेष्क HK; व्लेक्ष V. ¹¹⁹ बिल । भिल Kśk(K); भिल *(H); बिल भिल V. ¹²⁰ बुस्त । बन्धने C(K). ¹²¹ ब्रूस । ब्रीस K; ब्रूस *(K); ब्रूष R; ब्रूस H; ब्रूस ब्रीस V. ¹²² भर्त्स । सन्तर्जने KM. ¹²³ भल । आभरणे M; आभरणे H. ¹²⁴ भू । अवकल्कने, अवकल्पने *H; विकल्कने इति नन्दी (K); शुद्धिचिन्तयोः, मिश्रणे V; see S. ¹²⁵ भू । S and K add वा. Hema has a sūtra to the effect: भुवः प्राप्तौ शिच् (3.4.19). He comments: शिजभावेऽप्यात्मनेपदम् . . . प्राप्यभावेऽपि क्वचिदात्मनेपदमिष्यते । प्राप्तावपि परस्मैपदमित्यन्ये. ¹²⁶ भूष । अलङ्कारे M. ¹²⁷ भ्रूण । आशायाम् RKS; आशङ्कायाम्

1587 मडि भूषायां हर्षे च ¹²⁸ 1680 मत्रि गुप्तपरिभाषणे ¹²⁹ 1706 मद तृप्तियोगे ¹³⁰
 1541 मिदि स्नेहने ¹³¹ 1921 मिश्र सम्पर्के ¹³² 1825 मी गतौ ¹³³ 1744 मुच
 प्रमोचने मोदने च ¹³⁴ 1614 मुट सञ्चूर्णने ¹³⁵ 1603 मूल रोहणे ¹³⁶ 1849 मृजू
 शौचालङ्कारयोः ¹³⁷ 1850 मृष तितिक्षायाम् ¹³⁸ 1662 अक्ष म्लेच्छने ¹³⁹ 1736 यत
 निकारोपस्कारयोः ¹⁴⁰ 1536 यत्रि सङ्कोचे ¹⁴¹ 1626 यम च परिवेषणे ¹⁴² 1711 यु
 जुगुप्सायाम् ¹⁴³ 1807 युज संयमने ¹⁴⁴ 1737 रक आस्वादने ¹⁴⁵ 1628 रह त्यागे ¹⁴⁶
 1671 रुष रोषे ¹⁴⁷ 1738 लग आस्वादने ¹⁴⁸ 1920 लज प्रकाशने ¹⁴⁹ 1729 लस
 शिल्पयोगे ¹⁵⁰ 1936 लाभ प्रेरणे ¹⁵¹ 1563 लुण्ट स्तेये ¹⁵² 1657 लुबि अदर्शने ¹⁵³
 1843 वच परिभाषणे ¹⁵⁴ 1617 वज मार्गसंस्कारगत्योः ¹⁵⁵ 1858 वट ग्रन्थे ¹⁵⁶
 1586 वटि विभाजने ¹⁵⁷ 1842 वद सन्देशवचने ¹⁵⁸ 1551 वर्ण प्रेरणे ¹⁵⁹ 1942 वस

*(K); आशङ्कायाम् *(H); आशंसायाम् MH; आशाविशङ्कयोः V. ¹²⁸ मडि । भूषायाम् KH.
¹²⁹ मत्रि । गुप्तभाषणे KM. ¹³⁰ मद । तृप्तियोगे HRV, and Nandi (K); तृप्तिशोधने K.
¹³¹ मिदि । मिद Ksk(K)K(Sk)K(S); मिदि in printed edition of K; मिद मिदि V;
 मिदि H. ¹³² मिश्र । सम्पर्चने K. ¹³³ मी । मनने च K; मतौ H; गत्यां मतौ V. ¹³⁴ मुच ।
 प्रमोचने KMRH; मोक्षे V; प्रयोजने *(H). ¹³⁵ मुट । पुट K; पुट चूर्णे दीप्तौ V.
¹³⁶ मूल । मूल (नन्दी) K; मूल मूल V. ¹³⁷ मृजू । मृजूष् KV; मृजेति भिदादिपाठात्
 षकारश्चिन्त्यः P; VC remark चुरादिपक्षे ऊकाराणुबन्धस्य सार्थक्यं नास्ति; शौचालङ्कारयोः
 S. ¹³⁸ मृष । अदन्त *(K); अदन्त and अनदन्त (युजादि) according to HV. ¹³⁹ अक्ष ।
 अक्षणे MR; अक्ष म्लक्ष अदने *(S). ¹⁴⁰ यत । उपसंस्कार SkMK; उपस्कार HVK;
 निकार in printed edition; निराकार K(SP); खेद V. ¹⁴¹ यत्रि । सङ्कोचने KS.
¹⁴² यम । HK omit च. चकारान्मित्. यम च D(K)R; यम चम इति चान्द्रपारायणे
 K; परिवेषणे तदभावे V. ¹⁴³ यु । युजु कुत्सायाम् *(K); युजि *H; निन्दने V. ¹⁴⁴ युज ।
 सम्पर्चने K; सम्बन्धने K(P). ¹⁴⁵ रक । रग K; रग *(R); रघ M(Sk); आस्वादने H;
 स्वादने प्राप्तौ V; रक रग. ¹⁴⁶ रह । M omits. केचित् पठन्ति S; रह त्यागे HV. ¹⁴⁷ रुष ।
 रुट रोषे K; रुट *(SK); रुट R; रुठ *(K); रुट रुष HV. ¹⁴⁸ लग । लक C(K)MR;
 आसादने D(K); लक लग आस्वादने H; स्वादने प्राप्तौ V. ¹⁴⁹ लज । लजि K; प्राणने M;
 प्रकाशे S; लज लजि प्रकाशने H; लज आच्छादने, लजि लुजि दीप्तिनिकेतनहिंसाबलदानेषु V;
 लज प्रकाशने R. ¹⁵⁰ लस । लष *(S); लष K(S); in printed K it is लष; लश Ksk(K);
 लस, लश *(H); लश लष लस V; शिल्पोपयोगे K. ¹⁵¹ लाभ । लभेति सभ्याः K.
¹⁵² लुण्ट । लुण्ट K; लुण्ट *(K); लुण्ट S; लुण्ट *(SK); लुण्ट स्तेये अनादरे HV. ¹⁵³ लुबि ।
 अदर्शने MH; अदर्शने *(K). ¹⁵⁴ वच । भाषणे KH; सन्देशे C; सन्देशने *R(H). ¹⁵⁵ वज ।
 मार्गसंस्कारे गतौ K; मार्गगतौ संस्कारगतौ *(K); वज मार्ग इति द्वौ धात्वित्यन्ये K;
 मार्गसंस्कारे D(K)R; वज व्रज *(S); वज व्रज मार्गसंस्कारगत्योः H;
 वज व्रज संस्कारे गतौ V; व्रज मार्गसंस्कारयोः M; व्रज C. ¹⁵⁶ वट । वेष्टने K.
¹⁵⁷ वटि । वडि K; वटि *(K); वडि S; वडि *(H); वटि वडि वण्टने V. ¹⁵⁸ वद ।
 सन्देशने KM; भाषणे RH; वाचि सन्देशे V. ¹⁵⁹ वर्ण । प्रेरणे H; वर्णने *(S)K; वर्णे V.

स्नेहच्छेदापहरणेषु ¹⁶⁰ 1883 वात सुखसेवनयोः ¹⁶¹ 1709 विद चेतनाख्याननिवासेषु ¹⁶²
 1605 विल क्षेपे ¹⁶³ 1686 विष्क (1) हिंसायाम् ¹⁶⁴ 1940 विष्क (2) दर्शने ¹⁶⁵ 1705 वृष
 शक्तिबन्धने ¹⁶⁶ 1881 वेल कालोपदेशे ¹⁶⁷ 1932 व्यय वित्तसमुत्सर्गे ¹⁶⁸ 1691 शठ (1)
 श्लाघायाम् ¹⁶⁹ 1564 शठ (2) असंस्कारगत्योः ¹⁷⁰ 1855 *शठ (3) सम्यग्भाषणे ¹⁷¹
 1715 शब्द उपसर्गादाविष्कारे च ¹⁷² 1556 शम्ब ¹⁷³ 1555 षम्ब सम्बन्धने ¹⁷⁴
 1790 शीक आमर्षणे ¹⁷⁵ 1645 शुठ आलस्ये ¹⁷⁶ 1646 शुठि शोषणे ¹⁷⁷ 1833 शुन्ध
 शौचकरणे ¹⁷⁸ 1619 शुल्क अतिस्पर्शने ¹⁷⁹ 1612 शूर्प माने ¹⁸⁰ 1735 शृधु
 प्रसहने ¹⁸¹ 1546 श्रथ (1) प्रयत्ने ¹⁸² 1824 श्रथ (2) मोक्षणे ¹⁸³ 1574 श्लिष श्लेषणे ¹⁸⁴
 1565 श्वठ (1) असंस्कारगत्योः ¹⁸⁵ 1855 श्वठ (2) सम्यग्भाषणे ¹⁸⁶ 1624 श्वभ्र गतौ ¹⁸⁷
 1623 श्वर्त गत्यां कृच्छ्रजीवने ¹⁸⁸ 1634 षट् हिंसायाम् ¹⁸⁹ 1569 षान्त्व सामप्रयोगे ¹⁹⁰

¹⁶⁰ वस । स्नेहन° M; छेदोपहरणयोः *(S); स्नेहनछेदनयोः V; स्नेहनछेदनावहननेषु R; स्नेहच्छेदावहरणेषु H. ¹⁶¹ वात । वा गतिसुखसेवनयोः HR; वा सुखाप्तिगतिसेवनेषु, वात गतिसुखसेवनेषु V. ¹⁶² विद । °विवादिषु K; वेदनाख्याननिवासेषु MR; चेतनाख्याननिवासेषु SH; विदु चेतने *(S). ¹⁶³ विल । ¹⁶⁴ विष्क (1) । किष्क K; हिष्क D(K)M; हिक्क R; हिष्क किष्क H; हिक्क किष्क V. ¹⁶⁵ विष्क (2) । KR omit; see वष्क. ¹⁶⁶ वृष । शक्ति-सम्बन्धे M; धृष सामर्थ्यधारणार्थे *K; प्रजनैश्वर्ये V. ¹⁶⁷ वेल । कालोपयोगे S; वेल काल HVMR; वेल काल उपदेशे (SK). ¹⁶⁸ व्यय । व्यय क्षये K; व्यप व्यय Ksk(K); व्युदि व्यये (नन्दी) K; व्यय क्षये (नन्दी) S; व्यय वित्तसमुत्सर्गे इति सभ्याः K; व्यय क्षेपे, व्यय वित्तसमुत्सर्गे R; व्यय प्रेरणे, व्यय त्यागे, व्यप क्षये, वित्तसमुत्सर्गे V; व्यय गतौ *(H); वित्त पृथग् धातुः *(H). ¹⁶⁹ शठ (1) । शठ शट इति नन्दी K; शल Ksk(K); शल शट शठ V. ¹⁷⁰ शठ (2) । संस्कारगत्योः MRH; गत्यसंस्कृतसंस्कृते V. ¹⁷¹ शठ (3) । °आभाषणे MK; सम्यग्भाषणे RH; शठ श्वठ दुर्वाचि सम्यग्भाव इत्येके VC. ¹⁷² शब्द । उपसर्गादाविष्कारे च K(S); शब्दक्रियायाम् M(S); S supports M; शब्द उपसर्गादिभाषाविष्कारयोश्च H; उपसर्गादि, भाषाविष्कारयोश्च (नन्दी) H. Cf. K. (printed edition) योगविभागादाविष्कारे चेत्यनुपसर्गादिपीति नन्दी, शब्दयति. दौर्गाणां शब्द इत्येकं सूत्रम्, शब्दक्रियायामित्यर्थः. तत उपसर्गादाविष्कारे. चन्द्रः 'प्रतिपदिकाद्धात्वर्थ' इत्यनेनैव साधयति. ¹⁷³⁻¹⁷⁴ शम्ब षम्ब । सम्बन्धे K; सम्बन्धने MS; साम्ब *(SSK); शम्ब सम्ब साम्ब H; शम्ब षम्ब सम्ब गतौ, सम्ब साम्ब सम्बन्धे V. ¹⁷⁵ शीक । मर्षणे MS; आमर्षे सेके V. ¹⁷⁶ शुठ । शठ *(K); शठ शुठ V. ¹⁷⁷ शुठि । शुठ *(K). ¹⁷⁸ शुन्ध । शौचकर्मणि K. ¹⁷⁹ शुल्क । सर्जने K; असर्जने *(K); अतिसर्जने *(SK); सर्जने वर्जने V; H omits. ¹⁸⁰ शूर्प । माने इति चन्द्रः (K).; शूर्प माने HV. ¹⁸¹ शृधु । अप्रसहने K; प्रसहने *(K); प्रसहने H; V omits. ¹⁸² श्रथ (1) । प्रतिहर्षे KRH; प्रस्थाने SK; क्रथ (नन्दी) K; क्रथ वधे V; हिंसायाम् H. ¹⁸³ श्रथ (2) । हिंसायाम् K; हिंसायाम् बन्धने च H; बन्धे मोक्षे वधे V; श्रन्थ *(K). ¹⁸⁴ श्लिष । आलिङ्गने M. ¹⁸⁵ श्वठ (1) । संस्कारगत्योः MRH; श्वठि इति दौर्गाः KS; श्वठि *(SKM); श्वठ श्वठि H; श्वठ श्वठि गत्यसंस्कृतसंस्कृते V. ¹⁸⁶ श्वठ (2) । आभाषणे KM; सम्यग्भाषणे RH; V omits. ¹⁸⁷ श्वभ्र । इति दौर्गाः K; विले गते दैन्ये V; गतौ H. ¹⁸⁸ श्वर्त । स्वर्त KVVH; ष्वर्त (नन्दी) K; ष्वर्त पथि गतौ R; षुर्त *(R). ¹⁸⁹ षट् । सट् K. ¹⁹⁰ षान्त्व । सान्त्व CKH;

1562 षुट् अनादरे ¹⁹¹ 1718 षूद क्षरणे ¹⁹² 1673 ष्टूप समुच्छ्राये ¹⁹³ 1572 षिणह
 स्नेहने ¹⁹⁴ 1806 ष्वद आस्वादने ¹⁹⁵ 1892 सङ्केत आमन्त्रणे ¹⁹⁶ 1906 सत्र
 सन्तानक्रियायाम् ¹⁹⁷ 1888 सभाज प्रीतिदर्शनयोः ¹⁹⁸ 1880 साम सान्त्वप्रयोगे ¹⁹⁹
 1869 सार दौर्वल्ये ²⁰⁰ 1908 सूत्र वेष्टने ²⁰¹ 1860 स्तन देवशब्दे ²⁰² 1681 स्पश
 ग्रहणसंश्लेषणयोः ²⁰³ 1635 स्फिट्ट हिंसायाम् ²⁰⁴ 1723 स्फुट भेदने ²⁰⁵ 1537 स्फुडि
 परिहासे ²⁰⁶ 1573 स्मित अनादरे 'हन्त्यर्थाश्च' ²⁰⁷ 1659 ह्लप व्यक्तायां वाचि. ²⁰⁸

षान्त्व सान्त्व V. ¹⁹¹ षुट् । सुट् K; सुट्टेति भीमः R; षूद CDV; H omits. ¹⁹² षूद ।
 आस्रवणे, घाते *(K); आश्रवणे RVH; क्षरणे *(H); आश्रवणघातनिरासेषु V. ¹⁹³ ष्टूप ।
 ष्टूप MC(K); स्तूप K; स्तूप *(H); ष्टुप *(H); स्तूप ष्टूप V. ¹⁹⁴ षिणह । स्फिट्ट *(SSK);
 स्मित *(Sk); स्मित *(K); स्फिट्ट अनादरे HV. ¹⁹⁵ ष्वद । स्वादे *(SSK); संवरणे
 KDhŚ; संवरणे *(H); R omits. ¹⁹⁶ सङ्केत । accepted by SSK only; see केत.
¹⁹⁷ सत्र । सत्र K; सम्बन्धे सन्ततौ V. ¹⁹⁸ सभाज । प्रीतिदर्शनयोः H; प्रीतिदर्शने D;
 प्रीतिसेवनयोः R HSK*; सेवने प्रीतिदर्शने V. ¹⁹⁹ साम । सान्त्वने KVR. ²⁰⁰ सार । शार
 HKR; शार (नन्दी) K; सार D(K); शार सार V. ²⁰¹ सूत्र । विमोचने KH; अवमोचने
 R; ग्रन्थे V. ²⁰² स्तन । गर्जे H; ष्टन शब्दे C; स्तन ष्टन V. ²⁰³ स्पश । स्पर्श V; ग्रहण-
 श्लेषणयोः MH; ग्रन्थबाधयोः V; R omits. ²⁰⁴ स्फिट्ट । स्फिट्ट MHR; K omits. षुट्ट *S.
²⁰⁵ स्फुट । भेदे KRV. ²⁰⁶ स्फुडि । परिहासे H; परिघाते *(K); स्फडि R; स्पुडि K;
 स्फुटि D(K); स्फुटि स्फुडि V. ²⁰⁷ स्मित । गतौ Ś(S); printed edition reads स्मित अनादरे;
 ष्मिङ्ग *(MSK); ष्मि स्मित अनादरे V; H omits. 'हन्त्यर्थाश्च' । Refers to चट स्फुट
 and घट only K who adds: केचित्तु हन्त्यर्थाः स्वार्थे चेत्याहुः. RC observes: पारायणिकास्तु
 चटस्फुटवटा हन्त्यर्थाश्चेति मन्यन्ते. ²⁰⁸ ह्लप । क्लप *(SK); क्लप R; क्लपेति दुर्गादयः
 VC; ह्लप *(VC).

THE PROBLEM OF BENGALI VERB AND SYNTAX

By ANIMESH K. PAL

(Received December 8, 1966)

From the structural point of view Bengali verbs may seem to be of two types, viz. simple and compound. If the verb is a simple one then it takes the verb-ending appropriate under the given circumstance and completes the chain of sense inherent in the sentence. But the verbs of the compound variety may be of two types, viz. a pure verbal compound, i.e. a compound of two verb roots, together suggesting one action, and a mixed verbal compound or a verbal phrase, i.e. a combination of one or two verb roots plus another part of speech or one verb root plus more than one parts of speech, together suggesting one action. A verb form of the pure compound type has two components—the first component being in what is called *asamāpikā* or non-finite form. The second component may be either finite or non-finite. Thus although the finite and the non-finite verbs belong to two distinctly different morphological categories yet they are very often connected with each other within a sentence. Moreover, both the finite and the non-finite verbs are sometimes found to be doubled to express certain other shades of meaning. So both the finite and the non-finite verbs of the Bengali language may be of four types structurally, viz. simple, pure verbal compound, mixed verbal compound, doubled verbal formations. We shall study the last three categories separately and to do so we have to study the non-finite verbs, as the first components of the pure verbal compounds are always non-finite.

THE THREE NON-FINITE FORMATIONS

A non-finite verb in the Bengali language has either of these three suffixes at the end—(1) *iā* and *ē*, (2) *itē* and *tē*, (3) *ilē* and *lē*. The difference between the first and the second suffix of the above-mentioned pairs is that the first one is used in the so-called *sādhu bhāṣā* or chaste language, whereas the second one is used in *calita bhāṣā*, i.e. Standard Colloquial. Let us now examine the functions of the resulting non-finite verb forms.

(a) With *iā* we derive *khāiyā* from the verb root *khā* = to eat and with *khāiyā* we can have *sē bhāt khāiyā āsiyāchē* = he has come having eaten rice. The finite verb *āsiyāchē* may change according to the change in the tense and the person of the subject but in such cases the non-finite verb remains unchanged irrespective of tense and the person of the subject, examples—*tumi bhāt khāiyā āsiyāchilē* = you came having eaten rice, *āmrā bhāt khāiyā āsitām* = we used to come having eaten rice, *tāhārā bhāt khāiyā āsibē* = they will come having eaten rice, etc. In the given sentences non-finite *khāiyā* = having eaten shows the action of eating to be completed. Whatever be the stage of the action indicated in the finite verb and whatever be the tense of the finite verb, a non-finite verb having the suffix *iā* clearly indicates the already completed stage of the action. But this observation is valid only for the occurrence of a non-finite verb in a simple sentence. There are two actions in the given sentence—*sē bhāt khāiyā āsiyāchē*, viz. *khā* = to eat and *ās* = to come. The main action to be communicated in this sentence is *ās* = to come and *khā* = to eat is a secondary action. Thus it seems that the main or the principal action is in

the finite form and the secondary or the subordinate action is in the non-finite form. Here the two actions are distinctively separate, the occurrence of the non-finite being followed by the finite. But there are sentences where the two actions combine to express a slightly different idea. This we shall discuss later. The real significance of the non-finite with the suffix *āe*, it is now clear, is that it is a subordinate verb within a simple sentence, and that it shows the already completed stage of the first action and also plays the role of a connecting link between the two actions, itself being one. But in a sentence like *chēlēti gān gāhiyā bhikṣā karitēchē* = the boy is begging while singing, the non-finite *gāhiyā* does not look like completed, on the other hand, the actions of singing and begging seem to be simultaneously continuing. But here also *karitēchē* being the principal action *gāhiyā* is subordinate to it and so both logically and grammatically *gāh* = to sing is already completed when the principal action *karitēchē* is taking place.

(b) With *lē* we derive *khāilē* from the same verb root *khā* and with *khāilē* we can make a minimal sentence—*sē bhāt khāilē anyērā āsibē* = others will come after he has eaten rice. There are two actions implied in the sentence, viz. *khā* = to eat and *ās* = to come, and the non-finite *khāilē* is the connecting link between the two actions, itself being one. Here *āsibē* is the principal action and *khāilē* is not only the subordinate action, its subject is different from the subject of *āsibē*. Whereas the subject of *khāilē* is *sē*, the subject of *āsibē* is *anyērā*. Thus in the given sentence there is one finite verb *āsibē* but there are two subjects *sē* and *anyērā*. It is to be noted here that the subject of the non-finite formation with the suffix *ilē* cannot simultaneously be the subject of the finite verb as is possible in a simple sentence containing a non-finite formation with the suffix *iā*. After one writes *sē bhāt khāilē* the subject of the verb *ās* must be someone else, it cannot be *sē*. The non-finite formation *khāilē* apprehends something more to happen, thus it is a condition for the next action. The action in the finite formation takes place only when the action in the non-finite formation with the suffix *ilē* is already completed. So it is clear that the non-finite formation with *ilē* indicates the already completed stage of its action and creates a condition for the next action in the finite form and is a connective between the two actions.

(c) The third non-finite formation has *itē* as its suffix and we may have a sentence with it as *sē bhāt khāitē āsē* = he comes to eat rice. It appears that the non-finite formation with *itē* corresponds to an English infinitive as it has the same relation to its object as has an English infinitive. But it cannot be considered as an infinitive because it differs from an English infinitive in two ways. An English infinitive is a neutral unit, whereas the Bengali non-finite formation with *itē* is a derivative unit created from a verb root by adding a suffix. The English infinitive is nominal in character but the Bengali non-finite formation with *itē* is verbal in character. In the given sentence *khāitē* conveys the sense of an action quite clearly, whereby the action has not started. It depends on the principal action in the finite form to create a condition for it to start, itself being a subordinate action. Take for instance a sentence where the finite verb is in past perfect tense as *sē bhāt khāitē āsiyāchila* = he had come to eat rice. Here we do not know whether the subject actually ate or not, but only that he had come to eat. It is clear that in this sentence the action of eating is secondary in consequence to that of coming. We may compare the non-finite formations *khāiyā* and *khāitē* side by side here. Whereas *khāiyā* indicates that the action is complete, *khāitē* indicates that the action has not started even. Moreover, the non-finite formation with *itē*, being second in sequence of actions, is not a connecting link between the two actions.

THE VERB FORMS OF THE PURE COMPOUND TYPE

We have stated earlier that the Bengali verbs of compound variety may be of two types, viz. pure compound and mixed compound. Here we shall consider the pure verbal compounds, i.e. compounds of two verb roots, together suggesting one action. These are the compounds of two verb roots placed side by side and suggest one single meaning which is somewhat different from the original meaning of either of the two verb roots. The over-all meaning of the compound is actually a new one evolved in the process of the two verb roots joining together in a *samāsa*-like combination. For example *paḍē giyē* (*paḍē giyē byāthā pēlum* = having tripped I got hurt), *śuyē paḍē* (*śuyē paḍē bhāri āram bodh hala* = having lain down I felt greatly relaxed), *dēkhē phēlē* (*byāpārtā dēkhē phēlē chēlēṭi bipadē paḍla* = having seen the matter the boy got into trouble), *karē diyē* (*kājtā karē diyē anutapta hayēchilām* = having done the work I became repentant), etc., are all in non-finite form and each one of them is a combination of the two verb roots (both in the non-finite form with the suffix *iā*) with a single over-all meaning. Now *paḍē giyē* = having fallen, *śuyē paḍē* = having lain down, *dēkhē phēlē* = having seen, *karē diyē* = having done—all these non-finite verbal formations give one over-all meaning which stems out of the first component of the compound. Moreover, with the change of the second components there will be differences in the shades of the over-all meanings of these compounds. It reminds one of the English prepositional idiomatic verbal phrases where prepositions are put after verbs in order to alter their signification and where the over-all meaning of the phrase changes with the change of the preposition. Nevertheless, there are many differences between this phenomenon of English and the Bengali construction which we are presently discussing. To return to the point we were examining, all the above-mentioned non-finite verbal formations of the pure compound type have another thing in common, viz. both the components taken separately show the terminal suffix—*ē* = *iā*. These compounds, each taken as a whole, behave like an ordinary non-finite verb form ending in *ē* = *iā* and they have the same significance and function in the sentence structure in which they occur. These compounds can be used as finite verb forms also and in that case the first component remains in the non-finite form but the second component takes the necessary finite verb endings. In this context we shall consider the non-finite verb forms of the pure compound type alone as the structure of the compounds is our main interest here. Besides, the relation between the two components remains the same both in the non-finite and the finite formations.

Now we must understand (a) how the two verb roots combine to give one over-all meaning and (b) why they combine and (c) what their special utility is. In the compounds under scrutiny, the meaning of the first component ultimately survives while the second component, whose meaning is either partially or totally lost, gives a twist and imparts a different shade to the meaning of the first. By changing the second component, the shade or the twist in the over-all meaning of the compound can be changed. Now, what is this shade or twist? Let us consider a few examples. The four non-finite verbal formations of the pure compound type cited earlier, *paḍē giyē*, *śuyē paḍē*, *dēkhē phēlē* and *karē diyē*—minus their second components—will be *paḍē*, *śuyē*, *dēkhē* and *karē* meaning having fallen, having lain down, having seen and having done respectively. So it seems that translated into English *paḍē giyē* and *paḍē* have the same connotation. Then why add another component to increase the complications? Moreover, the meaning

of the second component taken separately seems to be rather irrelevant, for example *giyē* taken out of *padē giyē* means having gone, *padē* taken out of *śuyē padē* means having fallen, *phēlē* taken out of *dēkhē phēlē* means having dropped and lastly *diyē* taken out of *karē diyē* means having given. Let us take up just one of these non-finite verb forms for a closer observation. As *karē* means having done and *diyē* means having given, *karē diyē* should have meant having done and having given but instead, being a compound, it means only having done. But to a Bengalee *diyē* brings a delicate nuance of something being done and completed in somebody's favour when it is used as a second component. So *diyē*, first of all gives a twist to the meaning of the compound. It suggests by nuance that something has been done in somebody's favour. Surely, only *karē* would not have satisfied these requirements. The idea of doing in somebody's favour is an attribute of the second component *diyē* = having given. Now if the compound had been *karē phēlē* it would have meant the same as having done in English but in Bengali *phēlē* suggests that an action has been completed all of a sudden and then abandoned. So, although the second components of the pure verbal compounds apparently look irrelevant and without any special significance, they express a very delicate nuance which should be considered a valuable asset of the language. Can any verb root be used indiscriminately as a second component in such compounds? If not, how many are used and to what effect? We propose to discuss this point later. As yet, while discussing the non-finite verb forms of the pure compound type, we have considered only those compounds which have *iā* = *ē* as the suffix in both the components and not any compound or component with the suffix *itē* or *ilē*. It should be clearly understood that compounds having *ilē* at the end of the first or the second or both the components cannot occur at all because of the significance of the suffix *ilē* which we have discussed earlier.

Let us now examine if non-finite verb forms of the pure compound type having one of the components with the suffix *itē* do really occur in the language. In such a construction as *sē amākē phaltī khāiyā phēlitē baliāchila* = he told me to eat up the fruit, a non-finite verb form of the pure compound type does occur. In the given construction *khāiyā phēlitē* is a compound in which the first component ends with *iā* and the second component ends with *itē*. These two components taken separately mean having eaten and to throw respectively; together they mean to eat up. So there can be no doubt that the combination is really a non-finite verb form of the pure compound type. In such formations as *baltē giyē*, *dhartē pērē*, *kartē gēlē*, *yētē pārlē* (*kathātā baltē giyē bādhā pēlum* = having started to talk I received obstruction, *śēṣkālē tākē dhartē pērē byāpārtā bojhā gēla* = being able to catch him the matter was understood at last, *kāj kartē gēlē aman anēk kathā śuntē hay* = having gone to do something one has to listen to such words, *āgāmikāl yētē pārlē bhālo hay* = being able to go tomorrow will be better) we find a non-finite verb form as a first component with the suffix *tē* = *itē*. But we must be sure about these combinations through closer observations. Taken separately the members of the combination *baltē giyē* mean to speak and having gone but taken together they mean having started to speak and thus clearly constitute a non-finite verb form of the pure compound type. In another combination slightly different from the previous one, the members of the combination *kartē gēlē* taken separately mean to do and having gone respectively; taken together they mean having gone to do, which is not different from the original meaning of the two verb forms in the non-finite found in the combination. So the combinations like *kartē gēlē* and *dhartē pārlē* are not compounds at all.

Now we must find out when and where two non-finite verb forms being used side by side do not form any compound. In such a sentence as *tāhākē kājti karitē baliyā bhālo kara nāi* = you have not done well by asking him to do the job, we find two non-finite verb forms *karitē* and *baliyā* side by side; the first one ends in *itē* while the second one ends in *iyā*. As is evident from the English rendering asking to do or better having asked to do, the two non-finite verb forms do not give one single meaning and they have separate identities in the chain of sense expressed by the given sentence. It is evident that if two non-finite verb forms are used side by side they do not inevitably form a compound. Let us take up a second construction in a slightly reversed manner—*kājti dēkhiyā karitē cēṣṭā kario* = having seen, try to do the job or have a look at the job and then try do it. Here we find two non-finite verb forms side by side, the first one ending in *iyā* and the second one in *itē*. As in the previous sentence, here too the two non-finite verb forms have separate identities and do not combine in a compound to give one single meaning. Before concluding this point we have to examine two other possible constructions. We have previously observed that two non-finite formations, both with the suffix *iyā*, combine in a compound to give one single meaning. Now is it possible that in identical constructions these may not form a compound? In such a sentence as *kājti dēkhiyā kariyā phiriyā āsio* = come back having seen and done the work, the two non-finite formations *dēkhiyā*, *kariyā*, both having the suffix *iyā* and used side by side, do not form a compound but retain their separate identities. In another possible construction such as *kathātā śunitē balitē moṭēi sukhakar nahē* = the saying is not pleasant to hear or talk about, the two non-finite formations *śunitē*, *balitē*, both having the suffix *itē* and used side by side, do not form a compound either but retain their separate identities. The four instances cited, examined and analysed in this respect all show that non-finite verb forms of the pure compound type constitute a special category of their own and any two verb roots used side by side cannot make a compound. Moreover, the second components of the compounds are the real compound-makers: that is to say, the ability to make compounds with a verb root belongs to that special category of verbs which are generally used as second components. A term must now be found out for indicating this category. Professor S. K. Chatterji coined the term, *sahakārī kriyā* = auxiliary verb, for them. As I want to use the term auxiliary verb root for another functional category of verb roots I prefer to call the present category simply verbal compound-makers.

In order to find out the verbal compound-makers we propose to examine and enumerate as many pure verbal compounds as possible so that we can be sure about them. The following list may not be exhaustive but it will be enough to give us a proper idea about the actual occurrences of the pure verbal compounds in Bengali language. We shall list these compounds according to their second components. (1) With *ān* we can have *karē ān* = to get something done, *dēkē ān* = to call somebody in, *ṭenē ān* = to pull something in, *mērē ān* = to kill and then bring in, *dharē ān* = to catch something or somebody in, *kēṭē ān* = to cut and bring something in, *bharē ān* = to fill up something and then bring in, *tulē ān* = to pick up something and then bring in, *kinē ān* = to buy something and then bring in, *ṭhēlē ān* = to push something or somebody in, *kēdē ān* = to snatch something and then bring in, *chīdē ān* = to tear something and then bring in, and a few more constructions. (2) With *ās* we can have *phēlē ās* = to throw something out, *niyē ās* = to bring something in, *diyē ās* = to give something out, *karē ās* = to get something done and come back, *mērē ās* = to hit somebody and come back, *chūyē ās* = to touch something and come

back, *padē ās* = to read something and come back, *khēyē ās* = to eat something and come back, *nēyē ās* = to bathe and come back, *ghumiyē ās* = to sleep and come back, *khēlē ās* = to play and come back, *nēcē ās* = to dance and come back, *paḍiyē ās* = to give lesson and come back, *bujhiyē ās* = to convince someone and then come back, *dēkhē ās* = to see something and then come back, *parē ās* = to wear something and then come back, *dēkē ās* = to call somebody and then come back, *mēkhē ās* = to rub something on and then come back, *mēlē ās* = to spread something out and then come back, *tulē ās* = to raise and come back, *uṭhē ās* = to get up and come back, *uṭhiyē ās* = to awake someone and then come back, *namiyē ās* = to bring down something and then come back, *nēmē ās* = to come down, *cēyē ās* = to seek something and then come back, *bēyē ās* = to row and thus come, *pēyē ās* = to go on receiving, *gēyē ās* = to go on singing or to sing and come back, *ṭhēlē ās* = to go on pushing something, *cinē ās* = to recognize something or somebody and come back, and a few more constructions. The pure verbal compounds with *ān* and *ās* as second components are difficult to render in English. The idea of bringing something in after the particular actions and the ideas of coming back after the particular actions are sometimes only suggested in a roundabout way, sometimes the suggestion is almost absent and again there are cases where *ās* occurs as a second component just to give the idea of continuity of the action implied by the first component.

(3) With *oṭh* we can have *karē oṭh* = to have finished doing something, *ḍiyē oṭh* = to have finished giving something, *pērē oṭh* = to have been able, *balē oṭh* = to speak up suddenly, *khēyē oṭh* = to have finished eating, *nēyē oṭh* = to have finished bathing, *dēkhē oṭh* = to have seen something, *śunē oṭh* = to have listened to something, *hēsē oṭh* = to start laughing suddenly, *kēsē oṭh* = to start coughing suddenly, *ghēmē oṭh* = to be sweating, *kēdē oṭh* = to start crying suddenly and may be a few more constructions. *oṭh* as a second component means either to have finished an action or to start doing something suddenly and in a few cases an accomplished stage of an action.

(4) With *tol* we have very few pure verbal compounds, viz. *karē tol* = to have finished doing something, *ēnē tol* = to have finished bringing something, etc. (5) With *thāk* as a second component in a pure verbal compound we can have some constructions such as *parē thāk* = to remain lying somewhere, *marē thāk* = to remain dead, *basē thāk* = to remain sitting, *śuyē thāk* = to remain lying down, *dāḍiyē thāk* = to remain standing, *dharē thāk* = to continue to hold something, etc. Although *thāk* as a second component has other functions in different contexts and constructions yet in pure verbal compounds of the afore-mentioned types it conveys the idea of a continued stage of action.

(6) With *dē* we can have a number of constructions such as *tāḍiyē dē* = to drive away, *māḍiyē dē* = to have trodden upon, *naḍiyē dē* = to have moved something, *nāḍiyē dē* = to have caused something to move, *dhariyē dē* = to have caused something or somebody to be caught or understood, *hāriyē dē* = to have defeated somebody, *jitiyē dē* = to have caused someone to win, *hāsiyē dē* = to have caused someone to laugh, *kāḍiyē dē* = to have caused someone to cry, *karē dē* = to have done something for someone, *kariyē dē* = to have caused something to be done for someone, *lāgiyē dē* = to have set something or in some special cases to start doing something, *tātiyē dē* = to have caused something to be heated or to have instigated someone, *mātiyē dē* = to have inspired someone, *khediyē dē* = to have driven out someone, *mērē dē* = to have beaten up or, in some special cases, to have misappropriated, *sāriyē dē* = to have cured, *sariyē dē* = to get something removed, *dharē dē* = to have fixed, *paḍiyē dē* = to have taught

someone, *pāḍiyē dē* = to get something plucked, *bayē dē* = to have carried something for someone, *baiyē dē* = to have caused something to flow, *cāliyē dē* = to have set something in motion or to help someone to get on, *mucḍē dē* = to have twisted something, *diyē dē* = to have given away something, etc. *dē* as a second component conveys mostly an accomplished stage of action or in some cases something to be done in someone's favour.

(7) With *dhar* we have a few constructions only, viz. *tulē dhar* = to have raised up, *mēlē dhar* = to have spread something out, *tēnē dhar* = to have pulled back, etc. (8) With *nē* we come across some constructions such as *kēḍē nē* = to have taken away something forcibly, *mērē nē* = to have misappropriated, *pēḍē nē* = to have plucked something, *tāḍiyē nē* = to have caused someone to be driven in a particular direction, *nēḍē nē* = to get something stirred, *śuyē nē* = to have a rest by lying down, *cuṣē nē* = to have sucked something by the lips, *śuṣē nē* = to have something sucked in, *ēnē nē* = to have something brought in, *diyē nē* = to have finished giving something, *niyē nē* = to have finished taking something, etc. (9) With *paḍ* as a second component the following constructions are found to be used: *basē paḍ* = to sit down suddenly, *dāḍiyē paḍ* = to stop suddenly while walking, *dhadē paḍ* = to beseech someone repeatedly or to hold on to someone, *laṭkē paḍ* = to hang on to something suddenly, *sarē paḍ* = to get away suddenly, *chitkē paḍ* = to scatter in all directions suddenly, *chadiyē paḍ* = to be scattered in all directions suddenly, *chitiyē paḍ* = to be splintered about suddenly, *śuyē paḍ* = to lie down, *nēmē paḍ* = to get down, *uṭhē paḍ* = to get up, *giyē paḍ* = to have gone somewhere suddenly, *ṭalē paḍ* = to lean over suddenly, *ḍhalē paḍ* = to droop over suddenly, *khulē paḍ* = to be unhinged suddenly, *jhulē paḍ* = to hang down suddenly, *nuyē paḍ* = to bend over suddenly, *haye paḍ* = to become suddenly, *ēsē paḍ* = to have come somewhere suddenly, *bhēgē paḍ* = to run away suddenly, *bhidē paḍ* = to join in a gang or in a company, etc.

(10) With *phēl* as a second component we come across a number of constructions such as *karē phēl* = to have completed doing something, *dharē phēl* = to have caught or caught up with something or somebody suddenly, *ēnē phēl* = to have brought something suddenly, *niyē phēl* = to have taken something suddenly, *hēsē phēl* = to have broken into a laughter, *kēḍē phēl* = to have bursted into tears, *hēcē phēl* = to have sneezed suddenly, *kēsē phēl* = to have coughed suddenly, *gilē phēl* = to have swallowed suddenly, *tulē phēl* = to have raised something suddenly or to have picked up something suddenly, *khulē phēl* = to have untied or opened something, *diyē phēl* = to have given away something suddenly, *kinē phēl* = to have bought up something, *cinē phēl* = to have recognized something or somebody suddenly, *śikhē phēl* = to have learnt something completely, *likhē phēl* = to have written up something suddenly, *balē phēl* = to have spoken out something suddenly, etc. (11) With *bas* there are only a few constructions, viz. *karē bas* = to have done something suddenly, *dharē bas* = to have caught something suddenly or to request somebody insistently, *ēnē bas* = to have brought something or somebody in suddenly, *balē bas* = to have said something suddenly, etc. Here it is necessary to clarify a few points regarding the compound-makers (7) to (11). Constructions with these compound-makers are difficult to render in English and the English equivalents given here should be considered as attempts to give an approximate idea and nothing more. This is because of the idea or nuance of an accomplished stage of action inherent in some of the constructions. The idea or nuance of suddenness inherent in some of the constructions may be slight or may be quite emphatic. *dhar* (7) imparts a very slight nuance about the accomplished stage of action. But in the constructions with

nē (8) the accomplished stage of action is quite explicit. In the constructions with *paḍ* (9) the idea of suddenness is emphatic. Again *phēl* (10) imparts a twin suggestion of suddenness and completed stage of action. The same is true about *bas* (11).

(12) With *bēḍā* a few constructions are used such as *karē bēḍā* = to go on doing something, *dharē bēḍā* = to go on requesting a number of people insistently, *tēnē bēḍā* = to keep on dragging something about, *niyē bēḍā* = to move about having taken something along with, *khēlē bēḍā* = to go about playing all the time here and there, *hēsē bēḍā* = to go around laughing, *dhamkē bēḍā* = to go on threatening people, *raṭiyē bēḍā* = to go on spreading rumour or news, etc., *calē bēḍā* = to keep on moving, etc. (13) With *yā* many constructions are used such as *karē yā* = to continue to do something, *balē yā* = to continue to speak on something, *tulē yā* = to continue to raise or pick up something, *gulē yā* = to continue to dissolve something in some liquid, *khulē yā* = to continue to untie or to go on opening something, *khēyē yā* = to continue to eat, *bēyē yā* = to continue to row, *nēyē yā* = to continue to bathe, *bayē yā* = to continue to flow, *kṣayē yā* = to continue to decay, *paḍē yā* = to continue to read, *thēkē yā* = to continue to stay (this is a peculiar combination as *thāk* = to stay and *yā* = to go are contradictory to each other but here they combine to suggest the prolongation of the action of staying), *basē yā* = to continue to sit, *nēḍē yā* = to continue to stir, *pēḍē yā* = to continue to pick up from a high place, etc. The compound-makers (12) *bēḍā* and (13) *yā* have special functions for indicating the continuation of the action in the first component. But with *yā* another set of constructions are also used where *yā* denotes a completed stage of action such as *phulē yā* = to be swollen, *naḍē yā* = to be moved, *hērē yā* = to be defeated, *paḍē yā* = to be dropped, *puḍē yā* = to be burnt, *bakhē yā* = to have gone astray, *marē yā* = to be dead, *calē yā* = to go away, etc.

(14) A few constructions are in use with *lāg* as a second component such as *kāḍtē lāg* = to start crying, *hāstē lāg* = to start laughing, *khēte lāg* = to start eating, *yētē lāg* = to start going, *dēkhtē lāg* = to start seeing, *nāctē lāg* = to start dancing, *gāitē lāg* = to start singing, *ditē lāg* = to start giving, *nitē lāg* = to start taking, *uṭhtē lāg* = to start rising up, *nāmtē lāg* = to start going down, *kartē lāg* = to start doing, etc. As is evident from the English equivalents *lāg* as a second component indicates the starting of an action. With *ha* (15) as a second component the following constructions are in use: *kāṭātē ha* = it is necessary to spend (time), *yētē ha* = it is necessary to go, *khētē ha* = it is necessary to eat, *pētē ha* = it is necessary to receive, *āntē ha* = it is necessary to bring, *dhartē ha* = it is necessary to catch or hold or request, *mārtē ha* = it is necessary to beat or hit or kill, *martē ha* = it is necessary to die, *partē ha* = it is necessary to wear, *paḍtē ha* = it is necessary to read or fall, *pāḍtē ha* = it is necessary to pluck or to raise (a talk), *kāḍtē ha* = it is necessary to take forcibly, *kāḍtē ha* = it is necessary to cry, *hastē ha* = it is necessary to laugh, *nāctē ha* = it is necessary to dance, *gāitē ha* = it is necessary to sing, *cintē ha* = it is necessary to recognize, *kintē ha* = it is necessary to buy, *tultē ha* = it is necessary to pick up, *khultē ha* = it is necessary to open or unite, *bhultē ha* = it is necessary to forget, *kartē ha* = it is necessary to do, *ditē ha* = it is necessary to give, *nitē ha* = it is necessary to take, *mēltē ha* = it is necessary to spread, *khēltē ha* = it is necessary to play, *phēltē ha* = it is necessary to drop or throw away, *bādhētē ha* = it is necessary to tie, *rādhētē ha* = it is necessary to cook, *piṣtē ha* = it is necessary to grind, *miṣtē ha* = it is necessary to mix, *hārtē ha* = it is necessary to be defeated, *jittē ha* = it is necessary to win, *hārātē ha* = it is necessary to defeat or lose, *paḍātē ha* = it is

necessary to teach, *śekhātē ha* = it is necessary to educate, *bānātē ha* = it is necessary to build or fabricate, *śuntē ha* = it is necessary to listen, *guntē ha* = it is necessary to count, *phirtē ha* = it is necessary to come back or turn back, *bhidtē ha* = it is necessary to come closer, *ghurtē ha* = it is necessary to go around or about, *muchtē ha* = it is necessary to wipe, *jhādtē ha* = it is necessary to dust, *lēptē ha* = it is necessary to plaster, *māttē ha* = it is necessary to be enthused, etc. It is to be noted in this respect that in the constructions with *lāg* and *ha* the first components end with *tē* instead of the usual *iā*. These constructions are not possible with the first components ending in *iā* but those constructions which have their first components ending in *iā* may also have first components ending in *itē* or *tē* sometimes. *ha* as a second component, i.e. a verbal compound-maker, has certain special features which distinguish it clearly from the other verbal compound-makers. Firstly, the constructions with *ha* have a sense of compulsion inherent in them which, while rendering them in English, I have tried to indicate with the phrase 'it is necessary' although these constructions can be used in all tenses. Secondly, these constructions can never be used in the sentences which are in active voice. Thirdly, most of the verb roots in everyday use can make compounds with *ha*.

(16) With *rākh* as second component a number of constructions are used such as *dharē rākh* = to continue to hold on, *tēnē rākh* = to continue to pull back, *kētē rākh* = to have something cut, *dhēkē rākh* = to have something covered, *mēkhē rākh* = to have something mixed, *khēyē rākh* = to have something eaten, *dēkhē rākh* = to have something seen, *diyē rākh* = to have something given, *khulē rākh* = to keep something open, *cinē rākh* = to have something recognized, *kinē rākh* = to have something bought, *padē rākh* = to have something read, *phēlē rākh* = to have something abandoned, etc. *rākh* as a compound-maker seems to have two distinctly opposite nuances. In a few constructions like *dharē rākh* and *tēnē rākh* it suggests continuity of action but in many other constructions it denotes not only a completed stage of action but in addition to that it indicates a continued state of the action in its completed stage. (17) With *cal* a number of constructions are in everyday use such as *karē cal* = to go on doing, *niyē cal* = to go on taking, *diyē cal* = to go on giving, *hēsē cal* = to go on laughing, *balē cal* = to go on telling, *kēdē cal* = to go on crying, *khēyē cal* = to go on eating, *gēyē cal* = to go on singing, *tēnē cal* = to go on pulling, *mēnē cal* = to go on obeying, *bayē cal* = to go on carrying, *padē cal* = to go on reading, etc. It is quite evident from the English rendering that *cal* as a compound-maker suggests continuity of action.

(18) The last in this list is *āch* which has a number of peculiarities in its application as a compound-maker. It has no non-finite form and so as a compound-maker it can only be used in finite forms and that, too, in the verbal constructions of the present indefinite tense. In the other verbal constructions of the simple and compound tenses it does not occur at all. For simple past *āchilām*, *āchilē*, *āchilēn*, *āchili*, *āchila* were used in early modern Bengali, specially in poetic diction. These are still used in some of the Eastern Bengali dialects. A few examples of the verbal compounds with *āch* as a compound-maker may be cited now: *basē āch* = to continue to sit, *dharē āch* = to continue to hold on, *niyē āch* = to be engaged with something, *padē āch* = to continue to lie on or to remain, *marē āch* = to remain dead, *dādiyē āch* = to remain standing, *śuyē āch* = to remain lying, *hayē āch* = to have become, etc. *āch* as a compound-maker imparts a sense of continuity to the action or rather a continued stage of action. Compound-maker *āch* is somehow involved with another compound-maker *thāk* as regards its practical application in the verbal constructions of different

simple and compound tenses. For example a pure verbal compound which has *āch* as its second component must change over to *thāk* for the verbal constructions in the future tense (*baitā paḍē āchē ēk koṇē* = the book is lying in a corner but *baitā paḍē thākbē ēk koṇē* = the book will be lying in a corner). But in simple past both *āch* and *thāk* will be *chilām, chile, chilen chili, chila*. However, *āch* and a number of verb roots of identical type need detailed consideration in respect of the morphology of Bengali language.

THE VERB FORMS OF THE MIXED COMPOUND TYPE OR THE VERBAL PHRASES

The verb forms of the mixed compound type or in other words the verbal phrases are combinations of two or more parts of speech in which the final or the last component must be a verb form, either finite or non-finite. But the combination taken as a whole expresses one single action and the entire combination behaves like a simple verb form having the same function. So such a combination should aptly be called a verb form of the mixed compound type or simply a verbal phrase. This verbal phrase must have in final position a verb form which may be either simple or compound. If it is compound it will have a finite verb form as the last component and a non-finite form as the last but one component. However, in a verbal phrase the simple and the compound verb form in the final position must be bound up with a noun or with an adjective to form a phrase and give the idea of one single action taken as a whole. Thus, using the verb roots *kar* and *ha* meaning to do and to be respectively with nouns and adjectives, numerous actions can be expressed in modern Bengali language. Scientific and technological words, words of foreign origin, words expressing various abstract ideas—all these can be turned into verbs of both finite and non-finite forms to the greatest possible advantage for the further growth and development of Bengali language. Some of our grammarians failed to appreciate this advantage and one had even declared that the more such verbal phrases are used, the more authors and speakers tend to indulge into flamboyance and pretentious snobbery in speech, as in this way they can import archaic and pedantic, foreign and long forgotten, rarely used words into their language in order to show off. I cannot share this view, which I think is erroneous and far from reality. A reputed Bengali writer has complained that this is a roundabout way of getting rid of the problem of the inadequacy of the verb roots in the Bengali language and this is a tiresome hindrance for the free play of forceful prose. It is a barrier that makes translation from foreign languages a painful activity. To such a point of view it is enough to cite the example of modern English which makes use of such verbs as to make, to do, to give, to keep, etc., together with nouns and adjectives and other parts of speech to the best possible advantage.

Following this discussion of the verbal phrases in Bengali language we will now try to observe it more minutely and examine and analyse components of verbal phrases in order to understand the principles governing their structure and function. A verbal phrase may have two or more than two components of which the last component must be a verb root in finite or non-finite form. It is to be noted here again that the last component is the actual phrase-maker and that on it depends the verbal characteristics of the entire phrase. After extensive observation I have found out that a small number of verb roots are thus used as the last component of the numerous verbal phrases found in the language. As we have observed earlier, *kar* and *ha* are the most important of these verb roots, for they form the

maximum number of verbal phrases. With certain words, however, even these two are regarded as inappropriate, and other verb roots deemed more suitable are used in their place. Moreover, these two verb roots are used for two different voices, viz. *kar* for the active voice and *ha* for the passive, as in *bāḍi karā* (*bāḍitā kē karēchē?* = who has built the house?) and *bāḍi haoyā* (*okhānē kār bāḍi hacchē?* = whose house is being built there?). Both *kar* and *ha* can make phrases with various morphological categories of words: from the actual occurrences in the language this should be minutely examined and in the following paragraph we should also try to find out what other verb roots are used besides *kar* and *ha* for making verbal phrases. Then the complex nature of the so-called appropriateness of a particular verb root for making a phrase with a particular word can be fully understood.

Professor S. K. Chatterji listed the following verb roots in this category and called them *saṁyogmulak dhātu* = connecting verb roots: *kar* = to do, *ha* = to be, *dē* = to give, *pā* = to get, *khā* = to eat, *mār* = to hit, *yā* = to go, *bās* = to feel, *bāḍ* = to proffer. This list shows seven verb roots besides *kar* and *ha*. Let us now examine the occurrences of each one of these verb roots. Of these seven, *bās* = to feel and *bāḍ* = to proffer occur only in one word each, viz. *bhālobās* = to love (to feel good to someone) and *bhāt bāḍ* = to start serving rice (to proffer rice to someone). In medieval and early modern Bengali a few other phrases with these two verb roots might have occurred. Now there is no other trace of their use in the language. With the root *yā* = to go, we have such phrases as *kājē yā* = to go to the working place, *gollāy yā* = to go to the dogs, *jāhānnāmē yā* = to go to the devils. Very few such phrases occur in the language. It is to be noted that when in combination with the verb root *yā*, the noun adds *ē*, the locative case inflexion. With the root *mār* = to hit, we have such phrases as *doud mār* = to start running suddenly, *lāph mār* = to jump suddenly, *cāl mār* = to put on airs, *dhāppā mār* = to bluff, *thāppār mār* = to hit with the fists, *caḍ mār* = to slap, *kil mār* = to punch, *ghusi mār* = to box, *lāthi mār* = to kick, *lyām mār* = to kick back or to trip someone, *thokkar mār* = to peck at suddenly, *laṭhi mār* = to hit with a stick, *ghum mār* = to start sleeping, *dub mār* = to disappear suddenly, *pāḍi mār* = to start to cross, *cup mār* = to become silent suddenly, *hukum mār* = to order something suddenly, *churi mār* = to stab, *bomā mār* = to hit with a grenade or a bomb, *guli mār* = to hit with a bullet, *dhākkā mār* = to push suddenly, etc. A few more of such phrases may occur in the language. In order to understand the significance of these phrases with the root *mār* it is useful to examine and group them according to their connotations. (a) *caḍ mār*, *thāppar mār*, *kil mār*, *ghusi mār*, *lāthi mār* and such other phrases may be grouped together, as all of them indicate the action of hitting with one or another limb of the doer. (b) *thokkar mār*, *dhākkā mār* belong to another group, and these phrases indicate that the action of hitting is sudden, i.e. to peck, to push and thus to hit someone suddenly. (c) *lāthi mār*, *churi mār*, *guli mār*, *bomā mār* belong to another group and indicate hitting with something such as a stick, a knife, a bullet, a grenade or a bomb. These phrases are combinations of the instruments of hitting plus *mār* = to hit. (d) *ghum mār*, *pāḍi mār*, etc. may be included in another group, as in these phrases the original idea of *mār* = to hit has no relevance; here *mār* imparts an idea of the beginning of the action to the phrase, for example *ghum mār* = to begin to sleep, *pāḍi mār* = to begin to cross. (e) *hukum mār*, *dub mār*, *cup mār*, *doud mār*, *lāph mār* belong to a group which evidently utilize the root *mār* to convey the suddenness of the action. (f) *dhāppā mār*, *cāl mār* or *gul mār* are phrases where the root *mār* is merely used to form verbal expressions from the nouns

dhāppā = bluff and *cāl* or *gul* = tall talk. In these phrases which do not belong to the chaste language but are very much in use in the day-to-day life, the root *mār* simply suggests the idea of an action.

With the root *khā* = to eat, we have such verbal phrases as (a) *hōcaṭ khā* = to get tripped, *ṭāl khā* = to become slanted, *ṭol khā* = to get a dent, *āchād khā* = to take a headlong fall, *dhākkā khā* = to get a push, (b) *ghol khā* = to be thoroughly bluffed (lit. to eat buttermilk), *khābi khā* = to be in real trouble, *cakkar khā* or *ghurpāk khā* = to move in a circle, *hāoyā khā* = to enjoy the open air. The use of the root *khā* in these phrases suggests that the action is directed to the doer himself, i.e. toward the grammatical subject. But these phrases evidently belong to several groups. In such phrases as *ṭol khā* or *dhākkā khā* the original meaning of the root *khā* = to eat is irrelevant and the root *khā* only suggests the idea of getting some effect of an action. The other group of verbal phrases with the root *khā* includes such phrases as *ghol khā*, *khābi khā*. Here, the root *khā* is relevant as *ghol* = diluted curd is really a drink but *ghol khā* suggests something entirely different, to be thoroughly bluffed. Hence, this is more than a verbal phrase, this is an idiom. Similarly, *khābi khā* really means to gasp for breath while drowning. No doubt, a person in such a predicament gulps down a lot of water and so the root *khā* is quite relevant but the verbal phrase *khābi khā* = to be in great trouble, surpasses its real meaning by its suggestivity in an idiomatic use. An identical formation is *hābudubu khā*, which means the same as *khābi khā*. *hāoyā khā* = to enjoy the open air is also an idiom. Literally, it means to eat the air. Yet another group includes such verbal phrases as *cakkar khā*, *ghurpāk khā*, where the root *khā* suggests movement.

With the root *pā* = to get, we have such verbal phrases *khidē pā* = to feel hungry, *ghum pā* = to feel sleepy, which may be grouped together, as the root *pā* here means to feel. *bhutē pā* = to be possessed by a ghost, *dānoy pā* = to be possessed by a devil may be included in another group, as the root *pā* here means to be possessed. *bokā pā* = to find somebody a fool, *chēlē mānuṣ pā* = to find somebody immature, *māmār bādi pā* = to find a place where any amount of licence is allowed, may again be included in another group where the root *pā* suggests to find. *pār pā* = to get away with something, *bāgē pā* = to get somebody under one's control, *hātē pā* = to get something in hand, *dēkhā pā* = to get a chance of meeting somebody, may be grouped together, as here the root *pā* stands for to get. The verbal phrases formed with the root *dē* = to give, belong to two groups. In the first group it is added with a noun which is but a name of an action, as in *sātār dē* = to swim, *pādi dē* = to cross, *raonā dē* = to start on a journey, *doud dē* = to run, *hātā dē* = to walk off, *mocaḍ dē* = to twist. In these phrases the root *dē* only indicates the action, seemingly, because we do not have roots for such actions in Bengali language. But in some phrases such as in *doud dē* and *hātā dē* the root *dē* has a special role to play. Both *doud* and *hātā* being proper verb roots themselves are combined here as nouns with the root *dē* to suggest that the action has just begun. So *doud dē* actually means to start to run; similarly *hātā dē* means to start to walk off. In the second group of phrases the root *dē*, in combination with each different noun, has a different connotation, such as in *darjā* or *dor* or *kapāt dē* = to shut the door, *kān dē* = to lend one's ear to someone, *pācil dē* = to construct a boundary wall, *bedā dē* = to make a thicket on the boundary, *samādhān dē* = to offer solution, *bidhān dē* = to prescribe something, *śodh dē* = to repay a debt.

As we have considered the root *kar* and *ha* earlier, we shall not lengthen this examination further. But apart from these nine phrase-making roots

listed by Professor Chatterji there are many more in use. I may just mention a few of them here. I shall try to be as exhaustive as possible yet a few of them may still remain unlisted. We find verbal phrases with the root *dēkhā* = to show, as in *kalā dēkhā* = to dupe (lit. to show banana); with *dēkh* = to see, as in *sarsē phul dēkh* = to see yellow being hit with something (lit. to see the flowers of mustard), *andhakār dēkh* = to be blinded (lit. to see darkness); with *chād* = to leave, as in *ciṭhi chād* = to drop a letter, *kāpad chād* = to change a suit of clothes, *hukum chād* = to give an order; with *dhar* = to catch or hold, as in *ram dhar* = to be coloured, *cor dhar* = to catch a thief, *manē dhar* = to have fancy for something, *bāji dhar* = to wager, *pāye dhar* = to beseech somebody earnestly (lit. to catch or hold the foot); with *oṭhā* = to raise, as in *praśna oṭhā* = to raise a question, *kathā oṭhā* = to raise a talk (i.e. to start a talk), *bāḍi oṭhā* = to raise or build a house, *cāḍā oṭhā* = to raise subscription, *jātē oṭhā* = to take somebody back to his caste. In this context, it is noteworthy that the roots *oṭhā* and *tol* are not only identical in meaning but all the phrases formed with *oṭhā* as shown above can be formed by *tol* as well and the meaning will remain the same.

Verbal phrases are found with *ratā* = to give publicity to, as in *gujab ratā* = to spread rumour, *khobar ratā* = to spread news, *nindē ratā* = to spread malicious opinions; with *pād* = to pluck, as in *kathā pād* = to start talking about something, *phal pād* = to pluck fruits; with *pākā* = to cook, as in *dal pākā* = to gang up, *dalā pākā* = to make into a lump, *gandagol pākā* = to cook up trouble; with *pāt* = to set, as in *jāl pāt* = to set a net or a snare, *kal pāt* = to set a trap, *dai pāt* = to prepare milk for making curd; with *pātā* = to set up, as in *bandhutwa pātā* = to establish friendship with; with *basā* = to cause someone to be seated, as in *bājār basā* = to establish a market, *pāḍā basā* = to set up a community, *prajā basā* = to settle tenants, *melā basā* = to organize a fair; with *khol* = to open, as in *dokān khol* = to start a shop, *klāb khol* = to start a club, *bybsā khol* = to start a business; with *khēl* = to play, as in *pyāc khēl* = to play tricks with, *buddhi khēl* = to manœuvre with intelligence, *hāoyā khēl* = to be airy; with *phēl* = to cast, as in *jāl phēl* = to cast a net, *chip phēl* = to cast a fishing line, *din phēl* = to fix a date, *bipadē phēl* = to lead into trouble; with *pār* = to be able to, as in *bhālo pār* = to be able to do well; with *tol* = to raise or lift, as in the constructions identical with *oṭhā* and also as in *jāl tol* = to lift water, *phul tol* = to pluck flowers, *jāt tol* = to abuse by mentioning one's caste, *māthā tol* = to raise one's head, *mākhan tol* = to skim butter, *māthāy tol* = to idolize (lit. to raise something upon one's head), *bāp tol* = to abuse by mentioning one's father, *sodh tol* = to collect the debt of a feud, *tāl tol* = to make a racket; with *nē* = to take, as in *dalē nē* = to accept in a party; with *thāk* = to remain, as in *sambandha thāk* = to have relations with, *bhāb thāk* = to have good terms, *bhay thāk* = to have fear, *kāj thāk* = to have work, *āgraha thāk* = to have interest, *anicchā thāk* = to have unwillingness, *jor thāk* = to have power over something.

The verbal phrases with the root *thāk* are noteworthy for several reasons. Firstly, in the infinitive form of these verbal phrases the root *thāk* becomes *thākā* but in the finite forms the stem of this root becomes *āch*. In other words, the infinitive form of the verb stem *āch* is *thākā*. This is strange, no doubt, but even stranger is the fact that *thāk* as a verb stem also occurs in the finite form, but only as a simple finite, such as in *āmrā ai rāstāṭāy thāki* = we live in that road, *bāgh banē thākē* = the tiger lives in the forest, *tomrā thākcho nā kēn?* = why are you not staying, *sē ai bāḍitāy thākto* = he used to live in that house, *āmrā hoṭēlē thēkēchi* = we have lived in the hotel, *tārā thēkēchila ki?* = did they stay? But we lived in this

house will be *āmrā ei bādītāy chilām*. To be present will be *upasthit thākā* in the infinitive, but in simple past, as in *sē takhan upasthit chila* we find *chila*—a quite different stem—appearing suddenly in the simple past indefinite tense. Secondly, in a so-called compound tense, such as in the future continuous in the indicative mood, the root *thāk* is used rather like a verb ending (inflexion), for example *āgāmi kāl ēman samay āmrā pāhādtāy uṭhtē thākba* = tomorrow at this time we shall be climbing upon the hill. The future continuous in the imperative mood also requires the root *thāk* at the end of the original verb, for example *tomrā dal bēdhē yētē thāka* = keep on going in a group.

Verbal phrases are found with *khāṭ* = to labour, as in *majur khāṭ* = to work as a labourer; with *khāṭā* = to apply or employ, as in *jor khāṭā* = to apply force, *kausal khāṭā* = to apply a trick, *majur khāṭā* = to employ a labourer; with *paḍ* = to fall, as in *jalē paḍ* = to be in trouble (lit. to fall in water), *dalē paḍ* = to be included in a gang (lit. to be fallen among a gang), *najar paḍ* = to have drawn someone's attention, *tārikh paḍ* = to have given a date, *kāj paḍ* = to have a work all on a sudden, *kam paḍ* = to find something in short supply, *bāj paḍ* = to be struck by lightning, *dharā paḍ* = to be caught, *hātē paḍ* = to fall into somebody's clutches; with *cā* = to want, as in *bhālo cā* = to want somebody's good; with *kāṭ* = to cut, as in *sātār kāṭ* = to swim, *chaḍā kāṭ* = to chant a doggerel verse, *āk kāṭ* = to draw lines on something, *pakēṭ kāṭ* = to pick a pocket (*pakēṭ mārā* in the same sense is more common), *tāl kāṭ* = to miss a beat in music, *suto kāṭ* = to spin, *bājārē kāṭ* = to have a demand in the market, *ṭippani kāṭ* = to make a jeering comment, *cimṭi kāṭ* = to pinch someone; with *nām* = to get down, as in *kājē nām* = to start working on something, *yuddhē nām* = to plunge into a war, *āsarē nām* = to appear on a public platform, *khēlāy nām* = to appear in games, *sinēmāy nām* = to appear in a cinema film, *ilēksanē nām* = to stand for election; with *lāg* = to attach, as in *kājē lāg* = to start working, *sardi lāg* = to catch cold, *bhālo lāg* = to like, *gāyē lāg* = to be touched in the body, *khidē lāg* = to feel hungry; with *ṭān* = to pull, as in *riksā ṭān* = to pull a rickshaw, *sigārēṭ ṭān* = to smoke a cigarette, *maḍ ṭān* = to drink liquor or wine, *dalē ṭān* = to get somebody into a gang or party; with *bānā* = to make or build, as in *bāḍi bānā* = to build a house, *galpa bānā* = to invent a story, *rāstā bānā* = to construct a road, *bokā bānā* = to make a fool of someone; with *kaṣ* = to tighten up, as in *anka kaṣ* = to do a sum, *pyāc kaṣ* = to play tricks, *māmsa kaṣ* = to fry meat balls.

The above list, which is not exhaustive, contains a total of 34 verb roots which form verbal phrases with other words. It is quite clear that they warrant inclusion in a special category. For them Professor S. K. Chatterji has coined the term *samyog mulak dhātu*, i.e. connecting verb root. I prefer to call them verbal phrase-makers. Not every verb can act as a verbal phrase-maker. For example the verb root *ās* = to come, *nā* = to bathe, *kāḍ* = to cry, *hās* = to laugh, and other such intransitive verb roots cannot make any verbal phrase.

THE VERBAL COMPOUND-MAKERS AND VERBAL PHRASE-MAKERS

From the syntactic point of view special importance must be given to the numerous Bengali verb roots which can form verbal compounds of both pure and mixed type. It has been noted earlier that not all the verb roots can make verbal compounds of the mixed type. I have listed only 34 such verb roots which are capable of making verbal compounds of the mixed type or verbal phrases. These verb roots should be considered in a special syntactical category and should be called verbal phrase-makers. Now, the 34 verbal phrase-makers already listed and examined include

all the important, i.e. mostly used, verbal phrase-makers. Only a few less used ones may have been left out. It is to be noted that these phrase-makers cannot be used indiscriminately with other words to make verbal phrases. Which phrase-maker is to be used with which word and what will be the ultimate meaning of the resultant verbal phrase is a matter of current usage, which is the only criterion for such constructions. It is to be noted here that not all of these verbal phrase-makers are capable of making verb forms of the pure compound type. Just as the verb roots forming verbal phrases are called verbal phrase-makers, the verb roots used in verb forms of the pure compound type should be simply called verbal compound-makers.

Just as the verbal phrase-makers are the last components in the verbal phrases, similarly the verbal compound-makers are the final members of verb forms of the pure compound type. Like the verbal phrase-makers, the verbal compound-makers should also be considered a separate syntactical category. And lastly, just like the verbal phrase-makers the verbal compound-makers, too, are governed solely by the current usage. The 34 verbal phrase-makers are again enumerated here to facilitate their comparison with the verbal compound-makers. They are: *kar* = to do, *ha* = to be, *bād* = to proffer, *bās* = to feel, *yā* = to go, *mār* = to hit, *khā* = to eat, *pā* = to get, *dē* = to give, *dēkhā* = to show, *chād* = to leave, *dhar* = to catch or hold, *oṭhā* = to raise, *raṭā* = to give publicity to, *pād* = to pluck, *pākā* = to cook, *pāt* = to set up, *pātā* = to set up, *basā* = to cause someone to be seated, *khol* = to open, *khēl* = to play, *phēl* = to drop, *tol* = to raise or lift, *nē* = to take, *thāk* = to remain, *khāṭ* = to labour, *khāṭā* = to employ or apply, *paḍ* = to fall, *kāṭ* = to cut, *nām* = to get down, *lāg* = to attach, *ṭān* = to pull, *bānā* = to build, *kaṣ* = to tighten up. After thorough examination of the verb forms of the pure compound type current in the language I have found the following 18 verbal compound-makers: *ān* = to bring, *ās* = to come, *oṭh* = to rise, *tol* = to raise, *thāk* = to remain, *dē* = to give, *dhar* = to catch or hold, *nē* = to take, *paḍ* = to fall, *phēl* = to drop, *bas* = to sit, *bēḍā* = to move about, *yā* = to go, *lāg* = to attach, *hā* = to be, *rākh* = to keep, *cal* = to go on, *āch* = to stay or remain. It is possible that a few more verbal compound-makers still remain to be discovered. It is evident that a number of verb roots are common to both the categories. This categorization is mainly functional and the categories are not mutually exclusive. Nevertheless, it is to be noted that a number of verb roots belong to only one of the categories. Another noteworthy point about these verbal compound-makers is that, although as second components in the verb forms of the pure compound type, they belong to a special syntactic category, yet they are also to be found as the first components, while one of the other 17 verbal compound-makers will be found as the second components; for example the verb roots *dē* = to give and *phēl* = to drop are both verbal compound-makers and in combination they may appear either as *diyē phēlēchi* or *phēlē diyēchi*. The meanings of the two compound-makers are completely different. Whereas *diyē phēlēchi* means I have given away (rather suddenly), *phēlē diyēchi* means I have dropped (or rather thrown out). This is because the meaning of the first component partly survives in the over-all meaning of the compound, to which the second component imparts a particular shade or twist.

We have already listed the 18 chief verbal compound-makers whose function in Bengali now remains to be discussed. As noted above, the verbal compound-makers cannot be used indiscriminately with all verb roots, and the formation of the verbal compounds is governed solely

by the current usage. Of the 18 compound-makers (1) *bēḍā* = to move about suggests a repeated continuity of action, such as in *ki karē bēḍāccha* = what are you doing (continuously here and there)?, *sē māch dharē bēḍāta* = he used to fish around; (2) *bas* = to sit suggests one accomplished action in suddenness, such as in *kājṭāto karē basēchi ēkhan upāy ki?* = I have already done that thing, now what is the way out?; (3) *yā* = to go and (4) *cal* = to go on suggest continuity of action, as in *kājṭā karē yāo* = go on doing the work, or *anēk din dharē kājṭā karē calēchi* = I have been doing this work continuously for many days; (5) *thāk* = to remain and (6) *āch* = to remain or stay suggest continuity of a condition expressed through a non-finite verb form, as in *ār katakṣaṇ dāḍiyē thākbe?* = how long will you keep on standing?, *loktā ēkhano dāḍiyē āche* = the man is still standing; (7) *lāg* = to attach suggests that an action has been started and will continue for some time at least, such as in *tārpar tārā kājṭā kartē lāgla* = then they started to do the work (or rather kept on doing the work); (8) *rākḥ* = to keep imparts at least two different suggestions, for example in such compounds as *kinē rākhlum* = I have bought and *cinē rākhlum* = I have recognized there is a sense of retaining. *kinē rākhlum* not only means I have bought but it also suggests that I bought to retain and, similarly, *cinē rākhlum* suggests I have recognized and I shall retain this recognition in my memory; in such compounds as *phēlē rēkhēchē* = has dropped something somewhere and has left it that way, *rākḥ* imparts a suggestion of continuity of a condition expressed through a non-finite verb form; (9) *ha* = to be as a second component imparts a sense of compulsion on the agent as in *kājṭā āmākē kartē hayēchila* = I had to do that work, *āgāmi kāl tomākē yētē habē* = tomorrow you will have to go; it should be noted here that this verbal compound cannot be used in active voice, i.e. *āmi* has to be changed to *āmākē* and *tumi* has to be changed to *tomākē* for using this compound-maker; (10) *phēl* = to drop suggests completion of the action, such as in *kājṭā karē phēlēchi* = I have done the work and finished it; (11) *paḍ* = to fall suggests suddenness of an action, such as in *loktā basē paḍla* = the man sat down suddenly; (12) *nē* = to take as a second component shows that the action in the compound is already completed in favour of the doer, such as in *sē jiniṣṭā chiniyē nila* = he snatched the thing away or *jholtā nēḍē nāo* = stir the soup yourself; (13) *dhar* = to catch or hold as a second component indicates continuation of a condition expressed through a non-finite verb form, as in *bāccāṭākē tulē dharo* = lift the baby up (and hold it thus); (14) *dē* = to give as a second component always suggests an action directed towards somebody, i.e. it always presupposes a direct object, as in *garugulokē tāḍiyē dāo* = drive the cows away; (15) *tol* = to lift up shows a completed stage of the action, as in *sē lokṭākē ṭēnē tulla* = he pulled the man up or *yāyḡāṭākē āstākūḍ karē tulēcha* = you have turned the place into a rubbish heap; (16) *oṭh* = to rise in certain compounds indicates suddenness of action, as in *sē balē uṭhla* = (suddenly) he spoke out, in certain other compounds, as in *ei mātra khēyē uṭhlum* = just now I have finished my meal or, for instance, *chēlēgulo ēkṭu parē nēyē uṭhbe* = the boys will finish taking their bath after a while; *oṭh* as a second component suggests the completed stage of the action; (17) *ās* = to come as a second component always stands for the completed stage of an action and sometimes suggests a habit as well, as in *āmra pratibachar puḡār samay kāpaḍ pēyē āschi* = we are used to getting clothes during the Pujas every year or, for instance, *dēkhē āyto lokṭākē* = have a look at the man (and come back); (18) *ān* = to bring as a second component in a verbal compound retains its own meaning and adds it to the meaning of the first component. This combination in a two-stage verb form is rather unnatural for a verbal compound-maker, which

normally lumps together with the first component to suggest a single action, whereby the separate identity of the two verb roots is lost. But in such compounds as *lokṭākē dharē āno* = get hold of the man and bring him or *sē kājṭā karē ēnēchē* = he has brought the work completed, although the meaning of the second component is very prominent and has a separate identity, in Bengali the two-stage action is considered a single action. In addition, the second component *ān* = to bring also suggests the completion of the action. These observations are also applicable to the verbal compound-maker *ās* = to come which makes a number of compounds, keeping its own identity intact thus turning compounds into two-stage verb forms.

Some verbal compound-makers suggest completion of the action while others indicate its continuity or the continuity of a condition expressed through a verb form. Of the 18 verbal compound-makers, *rākḥ*, *phēl*, *tol*, *ās*, *ān* suggest completion of the action. Another five, *bas*, *oṭh*, *paḍ*, *nē*, *dē*, have the same function but also add other nuances of meaning. *bas*, *oṭh*, *paḍ* suggest suddenness of action and *nē* suggests that the action is directed towards the doer, whereas *dē* suggests a direct object for the action. *yā*, *cal*, *thāk*, *āch* and *dhar* suggest continuity of the action and two others, *bedā* and *lāg*, have the same function and add some extra nuances. *bedā* suggests frequency of an action and *lāg* suggests the starting of an action and continuing it for some time. Lastly, *ha* as a second component, i.e. as a verbal compound-maker, requires the change of its doer from the nominative to the accusative case and adds element of compulsion in the action. For instance, *āmākē yētē habē* = I must go or I have to go. Thus *ha* = to be when used as a compound-maker stands for compulsion on the part of its doer.

DOUBLED VERBAL FORMATIONS

Doubled verbal formations (both finite and non-finite) in Bengali are another peculiar phenomena which need careful examination. Non-finite verb forms with the suffixes *iā* and *itē* are found doubled in certain constructions, but non-finite verb forms with the suffix *ilē* are never found to be doubled. Whether ending in *iā* or in *itē*, a non-finite verbal formation, when doubled, suggests continuity of action, as in *āmi doudāiyā doudāiyā āsilām* = I came having run and *āmi doudāitē doudāitē āsilām* = I came running. In both the constructions the verb root *doud* = to run suggests a kind of background for the finite verb form *āsilām* = I came. The non-finite forms being doubled answer to the question 'how' ?—in relation to the finite verb form *āsilām*. For example how did I come ?—*āmi doudāiyā doudāiyā* or *doudāitē doudāitē āsilām*. If a particular part of speech answers to the question how in relation to a particular verb, it should, according to the accepted notions of grammar, be called an adverb as it actually modifies the verb. Now, before we reach any conclusion let us further compare the expressions *āmi doudāiyā āsilām* and *āmi doudāiyā doudāiyā āsilām*. Both can be translated I came having run in English. But in Bengali *āmi doudāiyā āsilām* amounts to expressing—I ran and I came put together in a simple clause, which has been examined previously. On the other hand, *āmi doudāiyā doudāiyā āsilām* indicates I was running and thus I came, put together in a simple clause. Thus the doubled non-finite formation with the suffix *iā* suggests that (1) the action although completed continued for some time and that (2) the action having continued for some time created a background, i.e. a condition for the next action in the finite form. This doubling of the non-finite form with *iā* rather describes the mode of the finite verb. Let us take another example: *āmi tāhākē baliā baliā kājṭi*

karāiyāchilām = I got the work done by telling him repeatedly. Here *baliā baliā* suggests continued insistence on the one hand and a background modification for the finite verb *karāiyāchilām* on the other. Let us take another identical construction in the future tense and examine more minutely: *āmi doudāiyā doudāiyā āsiba*, which can be roughly translated as I shall be running and thus I shall come in English. Here, too, the doubling of non-finite with *iā* suggests continuation of the action on the one hand and modifies the verb in the finite form on the other.

What is the difference between the following two constructions, viz. *āmi doudāiyā doudāiyā āsiba* and *āmi doudāitē doudāitē āsiba*? Both may be translated as I shall be running and thus I shall come in English and even a highly educated speaker of Bengali may not be able to give a satisfactory answer but may regard the difference as neither apparent nor understandable. If a difference does exist what is the special significance of the second construction with the non-finite verb form ending in *itē*? Firstly, let us have a clear understanding of the single and the doubled formations. *āmi doudāitē āsiba* = I shall come to run and *āmi doudāitē doudāitē āsiba* clearly differs in meaning. The doubled non-finite formation has nothing in common with the single non-finite. As we have observed previously, the single non-finite formation with *itē* is infinitive in character. But the doubled non-finite formation with *itē* has no infinitive character. It is simultaneously a modifier of the action and presents an action in continuity. That being so, *āmi doudāitē doudāitē āsiba* conveys a condition for *āsiba* which is a continuity broken by intervals. This idea of almost imperceptible broken continuity of action will be apparent from some other constructions such as *loktā doudāitē doudāitē cēcāitē lāgila* = the man started howling while running or *baltē baltē gāḍitā chēḍē gēla* = the car (or train) left while it was being talked about, *caltē caltē thāmlē kēna?* = why do you stop while you are moving? In all these constructions the doubled non-finite formation with *itē* conveys a suggestion of a continuously repeated action and in these cases the non-finite formations with the suffix *itē* cannot be normally replaced by the suffix *iā* except in the first construction. Even there if we say *loktā doudāiyā doudāiyā cēcāitē lāgila* the sense will be different from *loktā doudāitē* ..., etc., and the difference lies in the fact that in *doudāiyā doudāiyā* the continuity is rather prolonged and unbroken, whereas in *doudāitē doudāitē* it is that of a repeated action. On closer examination the difference between *doudāiyā doudāiyā* and *doudāitē doudāitē* is that these constructions depict prolonged continuation of action and sudden and repeated continuation of action respectively, creating a background modification for the following action in the infinite form.

There are other variations in the doubled non-finite formations, such as *kāj kariyē kariyē chēlēṭākē orā mērē phēlchē* = they are killing the boy by making him work too much. Here, *kāj kariyē kariyē* is a doubled non-finite verbal phrase consisting of a noun *kāj* = work plus *kariyē* = having made somebody work; thus a doubled verbal formation of the mixed compound type is created which suggests not the continuation of the action but its multiplicity. This is nothing but a literary exaggeration to make an effect on the listener. *kāj kartē kartē kathā balbār phursat pāi nā* = I do not get an opportunity to talk while working is a construction where *kāj kartē kartē*, although a doubled verbal formation of the mixed compound type, suggests a background situation rather than an action. This situation is created by the continuity of the action in the non-finite form and is mainly a background for the action in the finite form. *kathātā baltē nā baltē gāḍitā ēsē paḍla* = the car arrived even before the word was finished shows another verbal formation, *baltē nā baltē* which is in fact a

doubled verbal formation in which a negative word *nā* = no has been inserted in the middle of the doubled non-finite verb form ending in *itē*. The negative modifier *nā* changes the meaning significantly, *baltē nā baltē* suggests that the action was started but could not be finished and that something had to happen instantaneously. Thus such verbal formations play the role of temporal adverb in a way. Such constructions as *kāj karē kāj karē mēyētā sārā hayē gēla* = that girl is completely exhausted by working too much should also be considered as doubled verbal formations signifying prolonged continuation of an action (evidently an exaggeration for making an effect). Then, again, *kāj karē karē kaj karē karē ēkēbārē hanyē hayē gelum* = I am almost mad from working too much is possibly the limit of such doubled verbal formations, which are used purely for the sake of exaggeration.

Lastly, we come to the doubled verbal formations of the finite type, which are somewhat different from the non-finite type discussed previously, in respect of their verbal connotation. Let us have a few examples first: (1) *yāo yāo mēlā dik koro nā* = go away, don't kick up a row, (2) *bali bali karēo kathātā baltē pārlumnā* = I could not utter the word although I was on the verge of speaking it out, (3) *balchi balchi karē khāniktā samay kāṭiyē dilum* = I spent some time pretending I was going to speak out, (4) *karba karba balē sē amakē āsā dicchē* = he is giving me hope by saying that he will do something, (5) *ēi yē caturdikē ēktā gēla gēla rab uṭhēchē ēr kārantā ki?* = what is the reason for all this hue and cry all around that everything is perishing? (6) *caturdikē ēktā ēsē paḍla ēsē paḍla bhāb* = all around there is an expectation of an impending arrival, (7) *corṭā dharā paḍēchē dharā paḍēchē rab uṭhla* = there was shouting to the effect that the thief was being caught and so on, (8) *yācchi yācchi karēo yāoā hacchē nā* = I feel like going yet somehow I do not go, (9) *ētakṣanē khēlām khēlām manē hacchē batē* = now I have a feeling that I have eaten, (10) *yāygaṭāy ēsēchilām ēsēchilām bodh hacchē* = I have the feeling that I might have come to this place.

In all these examples the doubled finite verbal formations are quite simple in structure and also in connotation. In example one, the doubled finite verb form *yāo yāo* in the present imperative mood stands for insistence. In examples two and eight, the non-finite *karē* = having done has been used after the doubled finite formations *bali bali* and *yācchi yācchi* to make them clear verbal modifiers and the doubling gives a sense of prolongation of that condition. In examples three and six, the word *bhāb* = feeling has been qualified by the doubled finite verbal formations *balchi balchi* and *ēsē paḍla ēsē paḍla*. The doubling of the finite verbs gives the idea of the prolonged continuation of that feeling. In example four, the doubled finite *karba karba* is followed by the word *balē* = having said and suggests a repetition of the action. In examples five and seven, the doubled finite formations *gēla gēla* and *dharā paḍēchē dharā paḍēchē* are followed by the word *rab* = noise. This doubling only indicates the nature of the noise and suggests that this noise continued for some time. In examples nine and ten, the principal finite verbs are *manē hacchē* and *bodh hacchē*, both of which mean it is being felt or it seems, and the doubled finite formations *khēlām khēlām* and *ēsēchilām ēsēchilām* only serve to indicate these feelings. The doubling of the finite verb suggests, in this case, the continuation of that feeling for some time. Thus, it is evident from the above analysis that the doubled finite verbal formations are responsible for suggesting insistence, continuation or repetition of the action while the doubled finite verbal formation itself plays the role of either noun, adjective or adverb and only in one case appears as a verb form in the imperative mood.

CONCLUSION

This paper attempts to show that the verbal formations in the Bengali language are mainly of two types, viz. simple and compound, and that the compound verbal formations are of two types, viz. verb forms of the pure compound type and the verb forms of the mixed compound type, and that doubled verbal formations play a specially important role in the construction of a special type of sentence in modern Bengali language. However, it is needless to emphasize here that further analysis, observation and classifications are necessary to elucidate the problem of Bengali verbs.

RELIGIOUS CONDITION OF INDIA AT THE BEGINNING
OF THE NINETEENTH CENTURY

By BIMANBEHARI MAJUMDAR

(Received June 9, 1967)

If one has to rely on the writings of Abbe Dubois,¹ William Ward,² H. H. Wilson³ and Rammohan Roy, he cannot but conclude that the condition of Hinduism was most deplorable at the beginning of the nineteenth century. All of them depict the Brahmanas as crafty, selfish and depraved in taste, the temples as dens of vice and the Vaisnavas, Saktas and Saivas as the most profligate creatures in the whole world. A sober student of history has to investigate into the creditability of such a description and examine how far it is based on impartial observations. A few examples will show that the foreign writers were imperfectly acquainted with literature and practices of different sects of Hinduism. In 1801 H. T. Colebrooke wrote that Vopadeva was the real author of the *Sri Bhagavata Purana*, that Ramanuja and his followers worship Ramachandra and that those among the Radhaballabhi sect 'who follow the left-handed path (there is in most sects a right-handed or decent path and a left-handed or indecent mode of worship) require their wives to be naked when attending them at their devotion'.⁴ There is no left-hand school amongst the Vaisnavas and no scripture of any Vaisnava sect permits anybody to perform any religious ceremony in a state of nudity. Abbe Dubois might have been influenced by Colebrooke's description when he writes that the followers of Visnu offer toddy and opium and all kinds of meat, including beef, to the idol of Visnu and afterwards 'the Brahmin *Pujari* tastes the various kinds of meat and liquors and then the same pieces of meat pass from mouth to mouth from men and women, who having intoxicated themselves pass the night together, "giving themselves up without restraint to the grossest immorality without any risk of disagreeable consequences"'.⁵ It is superfluous to adduce any argument against a writer who could imagine that a Hindu would offer beef to Visnu. Again he writes that the high priests, as well as the inferior priests belonging to the sect of Siva, are drawn entirely from the Sudra caste.⁶ This is so palpably contrary to truth that the editor of Dubois' book has characterized it as false in the footnote. Dubois further imagines that if disciples fail

¹ *Hindu Manners, Customs and Ceremonies* by Abbe J. A. Dubois (1765-1848) was written some time before 1806 and revised in 1815.

² William Ward (1769-1823), the Baptist Missionary of Serampore, wrote his *A View of the History, Literature and Religion, etc., of the Hindus including a Minute Description of their Manners and Customs* which was written some time before 1815 as its page of dedication indicates, but was published in 1817.

³ Wilson: *Essays and Lectures chiefly on the Religion of the Hindus* appeared first in the issues of the *Asiatic Researches* in 1828 and 1832.

⁴ *Asiatic Researches*, VII, pp. 280-281. Vopadeva summarized the *Bhagavata* in *Harilila* and collecting some of its verses in his *Muktaphalam* dedicated it to his patron Hemadri, who again wrote a commentary on it. Madhvacharya, who flourished much earlier than Vopadeva, wrote a brief commentary on the *Bhagavata*. The images of Lakshmi and Narayana are worshipped by the followers of Ramanuja.

⁵ Dubois: *Op. cit.* (3rd ed., 1939), pp. 286-287.

⁶ *Ibid.*, p. 127.

to pay the customary *daksina* to the Gurus 'they have been known to take away a man's wife as compensation'.¹ In another place he says that the parents delight on teaching lewd songs and obscene verses to their children as soon as they begin to talk. From all these he comes to the astonishing conclusion that 'most of the religious and civil institutions of India were only invented for the purpose of awakening and exciting passions towards which they have already such a strong natural tendency'.²

Ward spent a long time at Serampore, where there were many Vaisnavas. But he was ignorant of the most elementary facts about the life of Caitanya. He writes that Advaita, the founder of the Vaisnava sect, and Nityananda, born at Nadia, persuaded Caitanya to forsake his mother and wife and became a Sannyasi when he was 44 years of age.³ According to Ward Caitanya taught that widows might marry and that he wrote to Advaita and Nityananda from Orissa exhorting them to labour in gaining proselytes and 'yet few or none joined them'.⁴ It is well known that Caitanya became a Sannyasi at the age of 24, that Advaita and Nityananda had nothing to do with his renunciation of householder's life, that Nityananda was born in Birbhum and not in Nadia and that thousands of people from all classes in society embraced Vaisnavism in the sixteenth century. Had the appeal of Caitanya failed to produce any result, how could there have been such a large number of Vaisnavas in Bengal at the beginning of the last century? Ward states at one place that the Vaisnavas reject all animal food, even fish, and that nearly one half of the Hindu population of Bengal are Vaisnavas composed principally of the lower orders.⁵ At another place of the same book he writes that one-fifth of the whole Hindu population of Bengal are supposed to be followers of Caitanya.⁶ But again he contradicts himself when he states that out of 16 Hindus of Bengal, five will be found to be Vaisnavas.⁷ It is difficult to rely on a witness who makes three such contradictory estimates. Ward's antipathy to the followers of the sect of Caitanya is so virulent that he writes that the Vairagis receive the reverence of the people as persons eminent for sanctity, but they are in reality common robbers.⁸ Here Ward was attributing to the mild and docile Vaisnavas of Bengal the characteristic features of the Nagas and Sannyasi raiders, who devastated Bengal and Bihar in the last quarter of the eighteenth century. Describing the activities of the Nagas in 1809-1810, Buchanan wrote that they usually carried arms, and a large number of them were serving in the armies of Rajas beyond the Yamuna. He added that they belonged to seven *akharas* or semi-military establishments, and their Mahants acted as Gurus, while the 'multitude go in large armed companies, partly begging and partly forcing themselves into service or plundering'.⁹

Buchanan and Horace Hayman Wilson were, unlike Dubois and Ward, civil servants of the East India Company. They had no ulterior motive in traducing Hinduism. Both of them carried on extensive researches and employed responsible Indian assistants to collect information for them. Their writings, therefore, manifest much greater objectivity.

¹ Dubois: *Op. cit.* (3rd ed., 1939), p. 130.

² *Ibid.*, p. 308.

³ Ward on the Hindoos, Vol. I, p. 220.

⁴ *Ibid.*, p. 221.

⁵ *Ibid.*, Vol. II, p. 204.

⁶ *Ibid.*, Vol. I, p. 222.

⁷ *Ibid.*, Vol. II, p. 292.

⁸ *Ibid.*, Vol. II, p. 293.

⁹ Buchanan: *Report of Patna and Behar*, p. 375.

They seldom made any wholesale denunciation of Indian religion or society. Even the spiritual guides of the sect of Vallabhacarya called the Maharajas or Gokulastha Gossains, who became the target of attack by a host of writers from 1639 to 1820, escape with the mild sarcasm from Wilson to the effect that they were always clothed with the best raiment and fed with the daintiest viands by their followers, who consigned their *tana*, *mana* and *dhana*, body, mind and wealth, to the spiritual guide.¹ In a Sanskrit drama, entitled *Pakhanda Dharma Khandana*, written by Damodar Svami in *Samvat* 1695, we find the Sutradhara telling the *Nati* that young damsels now look to the self-dedication preached by Srimat Vallabha Vitthalesvara, who has conspired to falsify the meaning of the Veda. A Vaisnava then appears on the scene and exclaims: 'Ye Vaisnavas, Ye Vaisnavas, hear the excellent and blessed Vaisnava doctrine; the embracing and clasping with the arms the large-eyed damsels, good drinking and eating, making no distinctions between your own and another's, offering one's self and life to Gurus, is in the world the cause of salvation. Mutual dining, carnal intercourse with females night and day, drinking, forming endless alliances, are the surpassing beautiful customs of the persons who have consecrated their soul to Sri Gokulesa.'² Such a hyperbolic statement occurring in a drama, evidently written by an upholder of the *Smarta dharma*, need not necessarily be accepted as historical truth. But this appears to have been corroborated by two responsible persons at the beginning of the nineteenth century. The first is Svami Narayan (1781-1830), a younger contemporary of Rammohan Roy, organizing a crusade against the corruption of the descendants of Vallabhacarya in Gujarat. According to Briggs, he was the first to take courage to expose the vices which characterized the lives of the clergy of the sect.³ The second is Capt. McMurdo, who served as the British Resident in Cutch. He wrote in 1820 that the *Maharaja* exercised such unlimited authority over his disciples in the Bhatia community that 'the most respectable families consider themselves honoured by his co-habiting with their wives or daughters'.⁴ Had not this fact been proved before the Supreme Court of Bombay in the *Maharaja Libel Suit* in 1862, the charge would have been considered fantastic. In delivering judgment in this case Sir Joseph Arnold observed: 'I find it wholly impossible to come to any other conclusion than this, that the *Maharajas* as a class were, and for years notoriously had been, guilty of the immoralities imputed to them by the defendant, in the alleged libel and in the plea of justification.'⁵ The strangest part of the case was that a witness, whom the Judge considered as respectable, deposed on oath that he had seen with his own eyes a *Maharaja* committing adultery with one of his female disciples and that 'it is a custom in the sect to pay for witnessing this act; both the sectary who sees, and the

¹ Wilson: *Op. cit.*, Vol. I, p. 125.

² The Sanskrit passage has been quoted in original and then translated in the *History of the Sect of Maharajas of Vallabhacaryyas in Western India*, pp. 134-135:

भो भो वैष्णवाः श्रूयतां आलिङ्गनं भुजनिबन्धनमायताक्ष्यः स्वच्छं निपानमशनं
स्वपराद्य भेदः स्वात्मार्पणं युवतिभिर्गुरुषु प्रयुक्तं धन्यं च वैष्णवमतं भुवि मुक्तिहेतुः ।
परष्मरं भोज्यमर्हनिशं रतिः स्त्रीभिः समं पानमनन्तसौहृदं श्रीगोकुलेशार्पितचेतसां नृणां
रीतिः परासुन्दरि सारवेदिनां ॥

³ Briggs, H. G.: *The Cities of Gujarashtra*, pp. 237-238.

⁴ *Transactions of the Literary Society of Bombay*, Vol. II, 1820, pp. 230-231.

⁵ *History of the Sect of Maharajas*, Appendix, p. 119.

woman who is enjoyed, pay'.¹ The exposure caused by the libel suit has effectively stopped the immoral practices. One Anglo-Indian paper editorially commenting on the case wrote: 'The religion of the Vallabhacaryas will not survive this blow.' It further hoped that 'the worship of Krsna is indirectly but more decisively struck at in the judgment of the Supreme Court of Bombay'.² But both the sect and the worship of Krsna not only survived but also retained the reverence of millions of Hindus. In this connection it is necessary to note that Tod who had an intimate knowledge of the votaries of the sect in Rajputana wrote: 'The predominance of the mild doctrines of Kanhya over the dark rites of Siva is doubtless beneficial to Rajput society.' This shows that at the beginning of the nineteenth century all the followers of Vallabhacarya were not guilty of corruption. In 1809-1810 Buchanan found the sect divided into two sub-sections, *Sadharani* and *Samarpani*, the latter dedicating their worldly effects to their Gurus.³

In describing the condition of Vaisnavism in Bengal H. H. Wilson was considerably influenced by Ward.⁴ He relied on bazar gossips rather than the literature of the sect. He attributed to Nityananda a vulgar couplet, purporting that 'Let all enjoy fish, broth, and woman's charms, be happy and call upon Hari.' The Sakta traducers of Vaisnavism invented such sayings. Wilson betrays his ignorance when in explaining a verse of *Caitanya Caritamrta* (III.6.74) he found Nityananda fond of a delicacy called Pulina which, however, means, according to the *Sabda-kalpadruma*, the bank of a river.⁵ He imagined that the Tulasi necklace was worn by persons of the lowest class in Bengal. As a matter of fact it is worn by all devout Vaisnavas, including those born of Brahmanas, Vaidyas and Kayasthas. There is a class of people, who are called *Samjogi Vaisnavas* or *Jat Vaisnavas*, who constitute a caste by themselves. They were confused by Wilson with the general body of Vaisnavas.

Many writers have assumed that the Bengal school of Vaisnavism lost its vitality by the eighteenth century and that no towering personality appeared amongst them in the age of Rammohan Roy. The writings and experiences of saintly persons, like Raghunandana Goswami, Radhamohan Vidyavachaspati, Krsna Chandra Sinha *alias* Lala Babu, prove the falsity of such an assumption.

Raghunandan Goswami was born in A.D. 1786. He was tenth in descent from Nityananda and lived at a village named Maro in the district of Burdwan. He had no narrow sectarian feeling in him. Though he was a devotee of Radha, Krsna and Caitanya his largest work was an epic poem called *Ramarasayana*, in which the life of Rama and Sita has been depicted with great pathos and poetic beauty. He composed in Sanskrit

¹ *History of the Sect of Maharajas*, Appendix, p. 129. The witness, Lachmidas Khimji, said that he paid 100 Cutch cowries, equivalent to about Rs.30, for the privilege of being present at the time of carnal intercourse.

² *The Poona Observer*, May 20, 1862.

³ Buchanan: *Op. cit.*, p. 372.

⁴ Following Ward (I.220) Wilson writes that 'Adwaitanand and Nityanand who being men of domestic and settled habits seem to have made use of a third, whose simplicity and enthusiasm fitted him for their purpose and set up Chaitanya as the founder of the new sect.' As a matter of fact Nityananda was a Sannyasin while Chaitanya was a householder in 1509-1510.

⁵ Wilson, I.156 n. It is astonishing to find that an erudite Bengali scholar, Akshoy Kumar Datta, copied this mistake of Wilson verbatim in his *Bharatvarsiya Upasaka Sampradaya*, Vol. I. He also called Advaita as Adwaitananda and described Raghunath Das a Brahmana (he was in fact a Kayastha) in blindly following Wilson.

an original biography of Caitanya called *Gauranga-campu*. He wrote as many as 439 lyrical poems describing the various incidents in the early life of Krsna. These have been grouped under 30 heads and published under the title *Gitamalā*. There are some original episodes like the crowning of Radha as the queen of Vraja in it. He also wrote a poem called *Radha-madhavodaya* in 34 cantos describing the origin and development of the love of Radha. Here, too, he displays considerable originality. Besides these he wrote a commentary of the *Bhagavata*. He was a friend of Ramkamal Sen, the grandfather of Keshab Chandra Sen, and used to call on him frequently at his Calcutta residence. He was thus a connecting link between the traditional Vaisnava Faith and the Navabidhana Brahmo Samaj in which the devotional frenzy was very much in evidence.

Radhamohan Vidyavachaspati, belonging to the family of Advaita of Santipur, was the most renowned scholar in the closing years of the eighteenth century. Sir William Jones and H. T. Colebrooke consulted him on many abstruse points in Hindu scriptures.¹ He wrote an erudite philosophical treatise entitled *Tattvasamgraha*, the manuscript of which bears date *Saka* 1724 or A.D. 1802. He was equally learned in *Smṛiti* and *Nyaya* but his special excellence lay in making an exposition of the tenets of Vaisnavism in his *Kṛṣṇatattvamṛta*, *Kṛṣṇabhaktirasodaya*, *Kṛṣṇabhajanakrama-samgraha* and *Kṛṣṇārcanadīpikā*. He was highly respected by the Rajas of Krishnanagar who did not entertain any kindly feeling towards Vaisnavism.

Kṛṣṇachandra Sinha, popularly known as Lala Babu, was the grandson of Gangagovinda Simha, the Diwan of Warren Hastings. Invitation letters were issued through inscribed gold plates to numerous Brahmanas at his *Annaprasana* ceremony by his grandfather. In 1803 he became the Diwan of some of the estates of the East India Company in the newly conquered territories in Orissa. But being inspired by the spirit of renunciation he gave up the lucrative career and settled at Vrindavana at the early age of 30. He erected a magnificent temple there at an expenditure of twenty-five lakhs of rupees and arranged to distribute daily food to the Vaisnavas at an annual cost of rupees twenty-two thousand. It is said that his sharp intellect and business acumen enabled him to acquire landed estates in the neighbourhood of Agra and Mathura yielding him an income sufficient for defraying the recurring expenses of the temple of the deity Kṛṣṇachandrama at Vrindavana. He, however, gave up all his wealth and led the life of a mendicant ascetic at the age of 40. He became the disciple of Siddha Kṛṣṇadas Babaji of Govardhana where he spent the last years of his life. He died at the early age of 42. But his name has become synonymous with sanctity and renunciation in Bengal as well as the Mathura region. The Mathura region covering an area of 168 miles contained numerous hermitages of Bengali Vaisnavas at that time. These Vaisnavas had nothing in this world to call their own. They spent their time in meditation and religious studies. They went round the residence of a few pious householders in the noon or in the evening and received without asking for it some cooked food, on which they subsisted. Siddha Kṛṣṇadas Babaji compiled a book entitled *Bhavanasara-samgraha*² in which he quoted verses from the authoritative works of Kavi Karnapura, Sanatana, Rupa, Raghunath Das, Kṛṣṇadas Kaviraj and others describing the love life of Radha and Kṛṣṇa and instructed the devotees how to imagine themselves as young girls or *manjaris* waiting upon them

¹ Bhattacharyya, Kalikṛṣṇa: *Santipur Parichaya*, Vol. II, pp. 660-662.

² Published by Haridas Das in 464 *Chaitanyabda* (A.D. 1950) from Nabadwip.

during the eight parts in which the twenty-four hours of their daily life was divided. It is said that Gopal Guru, disciple of Vakresvar Pandit, an associate of Caitanya, introduced this system of *astakaliya* meditation. No written evidence, however, is available for the statement. Whatever might be the truth of it there is no doubt that it was widely accepted by the ascetic Vaisnavas of Vrindavana at the beginning of the nineteenth century.

It is noteworthy that the followers of the Rama cult adopted this mode of meditation by substituting Rama and Sita for Krsna. As the Bengal Vaisnavas attached great importance to Varsana, the village where Radha is said to have been born, so did the devotees of Rama begin to consider Mithila, the birthplace of Sita, as one of the most sacred places of pilgrimage.¹ Ramacharan Das wrote the *Asta-yama-pujavidhi* and Jivaram Jugalapriya of Chhapra the *Asta-yama-varrtika* in the first quarter of the last century. The devotees of Rama are instructed to consider themselves as *Sakhis* or female friends of Sita and attend on her and Ramacandra even when they are engaged in the most intimate relation.

A new sub-sect of the Vaisnavas known as the *Karta-bhajas* arose in the district of Nadia during the early life of Rammohan. Writing in 1826 Wilson stated that it was founded by Rama Saran Pal, a Gwala, some 30 years ago.² But he really belonged to the Kaivarta caste and is said to have breathed his last in 1783. He was succeeded by his son, Dulal, who died in 1833.³ The *Karta-bhajas* introduced some novel features such as the recital of *mantras* in Bengali in place of Sanskrit, selection of the Guru or head of the sect from amongst non-Brahmins, free mixing of men and women at religious congregations and the permission of widows to re-marry. The influence of the *Sahajiya* cult was evident on it.

The writings of Rammohan Roy show that he was familiar with the Vaisnava literature and environment. He was born at Khanakul-Krishnagar, where Abhiram Thakur, a close associate of Nityananda, used to reside. His mother was intensely devoted to Radha-madhava, the family deity. As Rammohan refused to bow down his head before the image, she decided to cut off all her connections with him. She refused to take any monetary help from her son and spent her last days at Puri subsisting on what was offered to her unsolicited by the pilgrims. A contrast is noticeable between the views of Wilson and Rammohan with regard to their attitude towards the Hindu sects. Wilson seldom made any adverse comment against the character and morality of the followers of Vaisnavism, but he roundly condemned the *Vamacari Saktas* and the *Aghore-panthi Saivas*.⁴ Rammohan, on the other hand, defended, on the authority of the *Kularnava* and *Mahanirvana-tantra*, the habit of taking consecrated wine⁵ and the Saiva form of marriage, which permitted one to take a wife irrespective of her caste or community, the only restrictions being that her husband should not be alive and that she must not be related by blood in any way.⁶ He, however, condemned the Vaisnavas for their laxity of character and disregard of the rules of caste in eating and marrying.⁷

¹ Sinha, Bhagabati Prasad: *Ramabhakti me Rasik Sampradaya*, pp. 161-162.

² Wilson, I, p. 181.

³ *Nadia District Gazetteer*, pp. 47-49.

⁴ Wilson, I, pp. 233-234.

⁵ Roy, Rammohan: *Cari Prasner Uttara* (in Bengali), Sahitya Parisad edition, pp. 18-19.

⁶ *Ibid.*, p. 20.

⁷ *Gosvami sahita vicara*, p. 51, and *Pathya Pradana*, p. 137.

In December, 1820, *The Friend of India*, Quarterly Series, highly extolled a Bengali book on the 'present system of Hindu Polytheism' said to have been written by Brajamohan. The style and method of argumentation as well as circumstantial evidences show that this tract of 84 pages was really written by Rammohan himself.¹ Whether this contention is accepted or not, the tract throws a flood of light on the condition of Hinduism in Bengal in the second decade of the last century. The author condemns the following practices:

- (a) Performing indecent dances, accompanied by exceedingly indecent songs, before the image on certain festive occasions in the presence of ladies.²
- (b) Engaging Moslem dancing girls during festivals like Holi, Jhoolana-yatra and the celebration of the nativity of Krsna.³
- (c) Bathing in the Ganges early in the morning by young ladies in the presence of persons of opposite sex and then worshipping the *lingam* made of earth.⁴
- (d) Presence of obscene sculptures outside the temples, e.g. of Jagannatha at Puri.⁵
- (e) Introduction of the worship of deities like *Kalooray*, *Daksinaray* and *Olabibi*.⁶ The author admits that these were worshipped by women and men of lower castes.

Image worship was held to be responsible for all these evils. Those, however, who hold Rammohan Roy to be the first to denounce it ignore the trend of Indian history in the four centuries preceding him. Nanak, Kabir, Dadu and a host of less well-known reformers were really the precursors of Rammohan Roy. The second half of the eighteenth century especially was seething with ideas of reform. In *Samvat* A.D. 1825/1769 a saintly person named Ramcharan who was born in a village in the former Jaipur State started a sect called *Ramsanehi*. He advocated the worship of *nirguna* and formless Rama and instructed his followers to recite constantly the name of Rama. He died in 1799 and Ramjan, who succeeded him as the head of the sect, lived up to A.D. 1810. The followers of the sect are to be found in Gujarat, Maharashtra and Rajputana.⁷ Dariya Saheb of Dharkandha, Sahabad district, a tailor by birth, in many ways anticipated Rammohan Roy. In 1808 Buchanan met Tekadas, the successor of Gunadas, who was a direct disciple of Dariya Saheb.⁸ The latter died in 1780. According to Buchanan the number of the lay followers of the sect was fifteen thousand, while the ascetic followers were estimated to have been five to six hundred. Most of the followers of the sect belonged to the merchant class, though there were some Brahmanas, Kayasthas and Bhumihars, too, amongst them. They did not require any external aid, temple or mosque for carrying on their worship. They were required to meditate on God at sunrise, at the time of bathing between eight and

¹ Hay, Stephen N. (Ed.): *A Tract against Idolatry* (Calcutta, 1963).

² *Ibid.*, p. 67.

³ *Ibid.*, p. 85.

⁴ *Ibid.*, p. 101.

⁵ *Ibid.*, p. 135.

⁶ *Ibid.*, p. 83. The first two represent the worship of tiger and the last one the goddess of cholera, which, according to the Editor of *The Friend of India*, was 'created within these four years' (*Essays on Hindus*, p. 200, London, 1823), being reprints of articles published in *The Friend of India*.

⁷ Chaturvedi, Parasuram: *Uttari Bharat ki Santa-parampara* (in Hindi), pp. 614-621.

⁸ Buchanan: *Shahabad Report*, pp. 220-221.

nine in the morning, at noon after taking meals, in the evening and before going to bed at night. Once or twice a year the lay followers were required to hold a special congregational worship with the ascetics. They prayed together, but did not use flowers and then distributed food.¹ The title of some of the books written by Dariya Saheb will reveal the trend of his ideas. These were *Brahma-viveka*, *Murti-ukhar* (uprooting of idolatry), *Brahma-caitanya* and *Brahma-prakasa*. In his *Ganesa-khanda* he condemns as Mleccha a person who drinks wine, abducts women, takes fish and meat and does not seek knowledge.

The worship of formless Brahma (*Nirakar Parabrahma*) was advocated by Bastiram, whom Buchanan sought to interview at Daudnagar (Gaya). 'It is alleged', writes Buchanan, 'that he declares *Dana*, that is charity given to Brahmans for procuring a remission of sin, to be not only an useless expenditure of worldly means, but that in a future life it will prove rather prejudicial. His son, who visited me, denied this damnable heresy; but it seems to me that he teaches some doctrine which he knows is looked upon as dangerous.'²

It has already been mentioned that Svaminarayan preached reforms in Gujarat while Rammohan advocated these in Bengal. Like Rammohan he led campaigns against *Suttee* and pleaded for better treatment of widows. But he encouraged his followers to consider him as an incarnation of God and asked them to follow implicitly the commands of the leader of the movement. He relaxed the rigours of the caste system at the annual congregation called *satsang*, where the so-called lower castes, including the untouchables, were allowed to take their meal along with Brahmanas and others.³ But none of these reformers had even a particle of the wonderful learning or rationalism of Rammohan Roy.

It is a remarkable fact that southern India, which gave rise to the most important religious reformers from the time of Sankaracarya to that of Madhvacarya and Nimbarka, remained absolutely quiet in the eighteenth and the beginning of the nineteenth century. The Vaisnava followers of Ramanuja were busy with petty sectarian quarrels between the *Tenkalai* and the *Vadikalais* about the sectarian marks on the forehead and the correct mode of offering prayers at temples. In 1833 a case was filed in the Court of the Collector of Trichinopoly in which the Vadikalais complained that they were not permitted to recite the invocation verse beginning with *Ramanuja dayapatram*, addressed to Vedantadesika, and that they were prohibited from joining the *Prabandhic* recitations at Srirangam temple.⁴ The Tenkalai fronteel mark represents the two soles of Visnu's feet, whereas the Vadikalais contend that the symbol of the right foot of Visnu only should be impressed on the forehead because the Ganges spring from it.⁵

A number of inspired saints arose in Maharashtra from the thirteenth to the seventeenth century but in the latter half of the eighteenth and the beginning of the nineteenth century did not witness any reform movement there. Captain Edward Moor published in the *Asiatic Researches*, 'An account of an hereditary living deity, to whom devotion is paid by the

¹ Shastri, Dharmendra Brahmachari: *Santakavi Dariya* (in Hindi), pp. 32-33.

² Buchanan: *An account of the districts of Behar and of the city of Patna*, pp. 389-390.

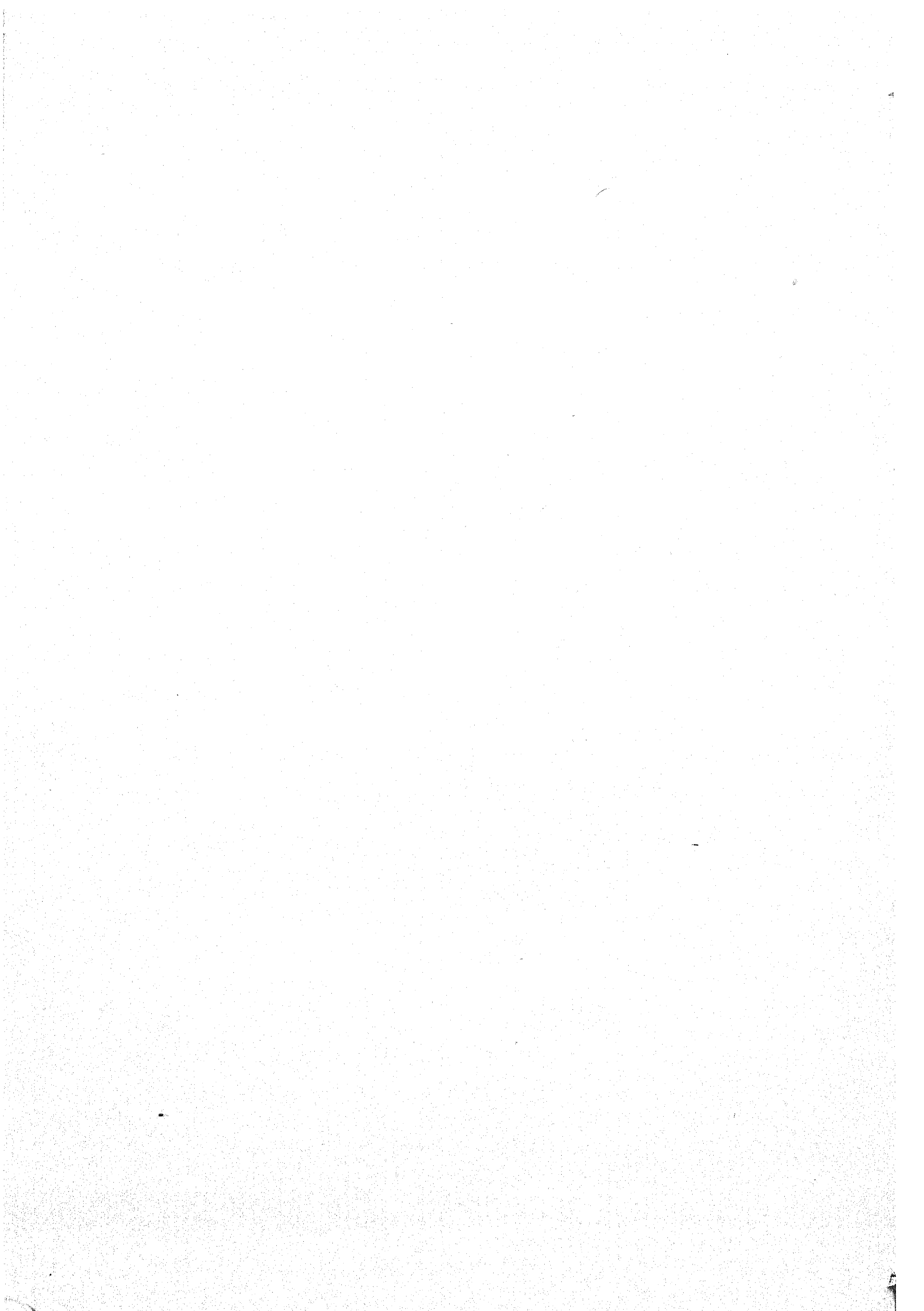
³ U. C. Parilah—Sri Swami Nararan, pp. 230-282.

⁴ Hari Rao, V. N.: *Vaisnavism in the south India in the modern period*, a paper included in *Studies in Social History* (Modern India) edited by O. P. Bhatnagar, pp. 120-121.

⁵ Monier Williams: *Modern India and the Indians*, pp. 193-194.

Brahmins of Poona and its neighbourhood' in 1801. He found Gabajee Deo, who succeeded Durnee Duer Deo (probably Dharanidhar Deo) in 1770, as the head of the sect. The latter's great-grandfather's father, Mooraba Gosseyn, originally received divine grace and sanctity about the year A.D. 1640. The writer describes how the Peshwa, alighting from his elephant, advanced towards Gabajee Deo with folded hands and prostrating himself kissed his feet. It was believed that the family was vouchsafed divinity for seven generations only and the eldest son of the then occupant of the divine position was to be the last in the line.¹ These facts amply demonstrate that there was supreme need for religious reform in the nineteenth century.

¹ *Asiatic Researches*, Vol. VII, pp. 383-397.



DESCRIPTION OF TWO NEW SPIDERS OF THE GENUS *XYSTICUS*
(FAMILY: THOMISIDAE) FROM INDIA

By B. K. TIKADER

(Received June 9, 1967)

INTRODUCTION

The first record of the Thomisid spider in Indian sub-continent is made by Doleschall (1857). Afterwards Blackwall (1864), Stoliczka (1869) and Cambridge (1885) have added more new representatives to this family. But the representative work by Pocock (1900) contains no reference to the above family. Subsequently, authors like Simon (1906), Sherrifs (1929) and Dyal (1935) have described some more species from South India and Lahore respectively. Further contribution towards the spiders of this family has been made by Tikader (1960*a*, 1960*b*, 1962*a*, 1962*b*, 1962*c*, 1963, 1964*a*, 1964*b*, 1965*a*, 1965*b* and 1966).

The present communication deals with the study of two new Thomisid spiders of the genus *Xysticus* from India.

All type specimens will in due course be deposited in the National Zoological Collection, Zoological Survey of India, Calcutta.

1. *Xysticus pynurus* sp. nov.

General—Cephalothorax and legs brownish green, abdomen white; total length 4.80 mm.; Carapace 2.00 mm. long, 1.80 mm. wide; abdomen 2.80 mm. long, 2.50 mm. wide.

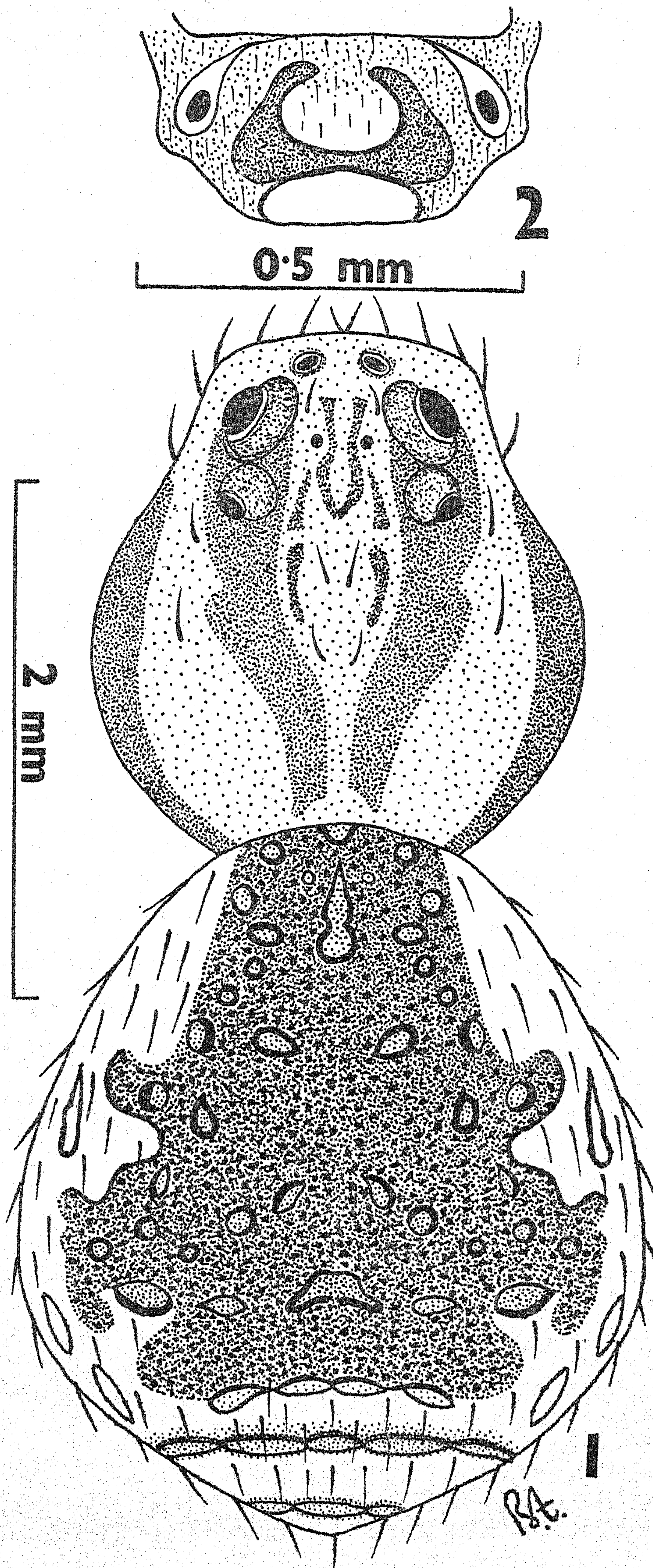
Cephalothorax—Slightly longer than wide, clothed with conspicuous spines, the lateral margin with dark brown and two conspicuous longitudinal broad dark brown bands, extending from lateral eyes to near the base of cephalothorax. Clypeus high, margin of clypeus with seven spines directed forward but the middle one directed upward. Eyes round and black, lateral eyes large and ringed with dark brown tubercles, anterior median slightly larger than posterior median eyes, ocular quad longer than wide. Sternum nearly heart-shaped, pointed behind, clothed with thick hairs. Legs strong and spined, provided with irregular deep brown or black dots, and these dots more conspicuous on the I and II legs. Tibiae and metatarsi of I provided with five pairs of ventral spines.

Abdomen—Nearly ovate, wider behind the middle, clothed with numerous spines. Dorsally with a broad patch, provided with conspicuous white dots as in Text-fig. 1. Ventral side less whitish than dorsal side and mid-ventrally provided with a longitudinal broad brownish-red band, extending from epigastric fold to near the base of spinners. Epigyne as in Text-fig. 2.

Holotype—One female in spirit.

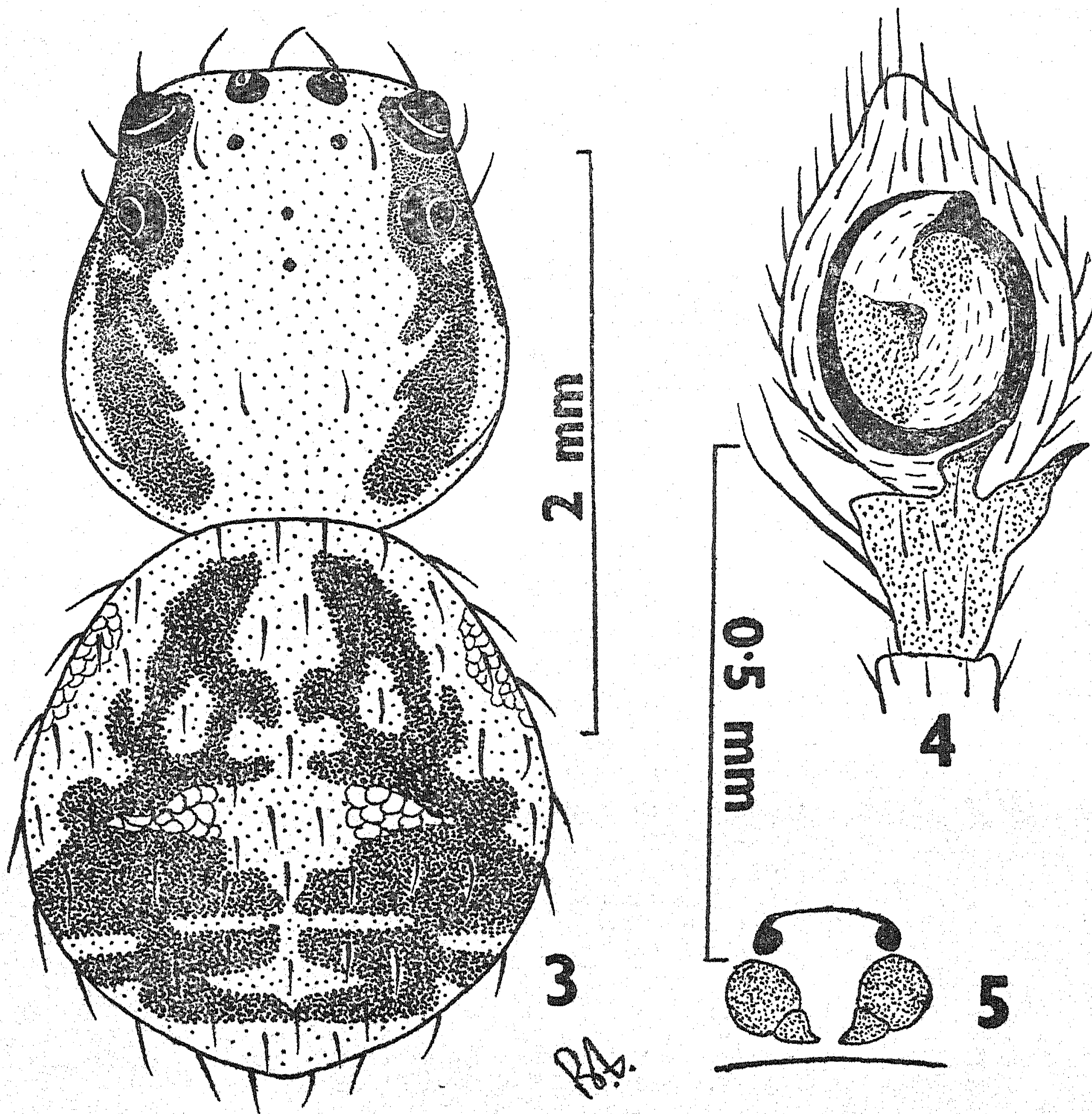
Type-locality—Pynursla, Dist. K. and J. Hills, Assam, India. Coll. B. K. Tikader, 13-4-1966.

This species resembles *Xysticus sujatai* Tikader but is separated as follows: (i) Abdomen dorsally with a broad brown patch, provided with conspicuous white dots but in *X. sujatai* abdomen dorsally with paired



TEXT-FIGS. 1-2. *Xysticus pynurus*, sp. nov. 1, dorsal view of female, legs omitted; 2, epigyne.

transverse whitish lines. (ii) Ventral side of abdomen provided with longitudinal broad brownish-red band, extending from epigastric fold to near the base of spinners but in *X. sujatai* ventral side of abdomen uniform pale colour. (iii) Tibiae and metatarsi of I legs provided with five pairs of ventral spines but in *X. sujatai* tibiae I with three pairs and metatarsi with four pairs of ventral spines. (iv) Epigyne also structurally different.



TEXT-FIGS. 3-5. *Xysticus joyanti* sp. nov. 3, dorsal view of female, legs omitted; 4, male palp; 5, epigyne.

2. *Xysticus joyanti* sp. nov.

General—Cephalothorax and legs light brownish green, abdomen brown; total length 3.50 mm.; Carapace 1.80 mm. long, 1.50 mm. wide; abdomen 2.00 mm. long, 1.90 mm. wide.

Cephalothorax—Slightly longer than wide, broad in front, clothed with conspicuous spines, two conspicuous lateral longitudinal broad dark brown bands, extending from lateral eyes to near the base of cephalothorax. Clypeus high, margin of clypeus with five spines directed forward but the middle one directed upward. Eyes round and black, lateral eyes large and ringed with dark tubercles, anterior median larger than posterior

median eyes, ocular quad slightly longer than wide. Sternum heart-shaped, clothed with hairs. Legs strong and spined. Tibiae and metatarsi I and II legs provided with two pairs of ventral spines.

Abdomen—Nearly ovate, wide in the middle, clothed with spines. Dorsally provided with symmetrically longitudinal deep brown patches as in Text-fig. 3. Ventral side pale colour but two longitudinal brown mid-lines, extending from base of spinners to near the middle of abdomen. Epigyne as in Text-fig. 5. Male nearly same colour like female, but abdomen slightly long and legs also longer than female. Male palp as in Text-fig. 4.

Holotype—One female, *paratype* five females, *allotype* four males in spirit.

Type-locality—Mawphlang, Dist. K. and J. Hills, Assam, India. Coll. B. K. Tikader, 12-4-1966.

Other localities—Pynursla, Dist. K. and J. Hills, Assam, 13-4-1966. 5 ♀ 3 ♂ (B. K. Tikader). Shillong, Assam, 1-6-1966. 6 ♀ 2 ♂ (B. K. Tikader).

This species resembles *Xysticus kamakhyai* Tikader but is separated as follows: (i) Margin of clypeus with five spines but in *X. kamakhyai* margin of clypeus with six spines. (ii) Cephalothorax provided with two longitudinal broad dark brown bands, extending from lateral eyes to near the base of cephalothorax but in *X. kamakhyai* cephalothorax provided with a U-shaped broad, dark brown patch, with base of the U in the ocular area and the limbs directed backward and sublaterally on the cephalothorax. (iii) Epigyne structurally different.

REFERENCES

- Blackwall, J. (1864). Description of seven new species of East Indian spiders received from the Rev. O. P. Cambridge. *Ann. Mag. Nat. Hist.*, 14 (3), 38.
- Cambridge, O. P. (1885). Scientific Results of the Second Yarkand Mission, Araneae.
- Doleschall, C. L. (1857). Bijdrage tot de kenn is der Arachniden van den Indischen Archp. *Nortuurk, Tijdschr. Ned. Ind.*, 13, 4-29.
- Dyal, S. (1935). Spider of Lahore, *Bull. Dept. Zool. Punjab Univ.*, Lahore, 1, 19-204.
- Pocock, R. I. (1900). Fauna of British India, Arachnida. Taylor and Francis, London.
- Sherrifs, W. R. (1929). South Indian Arachnology, Part IV. *Ann. Mag. nat. Hist.*, 10 (4), 233-49.
- Simon, E. (1906). Voyage de M. Maurice Maindron dans l'inde meridionale, 8 Memoire, Arachnides (2 partie). *Ann. Soc. Ent. Paris*, 65, 286-94.
- Stoliczka, F. (1869). Contribution towards the knowledge of Indian Arachnoidea. *J. Asiat. Soc. Beng.*, 38, 201-51.
- Tikader, B. K. (1960a). On some new species of spiders (Arachnida) of the family Thomisidae from India. *J. Bombay nat. Hist. Soc.*, 57, 173-83.
- Tikader, B. K. (1960b). On two new species of spider of the genus *Oxyptila* (family: Thomisidae) from India. *Proc. zool. Soc.*, Calcutta, 13, 115-18.
- Tikader, B. K. (1962a). On some new spiders of the genus *Tibellus* (family: Thomisidae) from India. *J. Univ. Poona, Sci. and Tech.*, 22, 133-37.
- Tikader, B. K. (1962b). Studies on some Indian spiders (Araneae: Arachnida). *J. Linn. Soc. London (Zool.)*, 44, 561-84.
- Tikader, B. K. (1962c). On two new species of spiders of genus *Philodromus* (family: Thomisidae) from India. *Proc. zool. Soc.*, Calcutta, 15, 39-42.
- Tikader, B. K. (1963). Studies on interesting South Indian Crab-spiders (family: Thomisidae). *Proc. Indian Acad. Sci.*, B, 58, 249-62.
- Tikader, B. K. (1964a). A new species of spider of the genus *Oxyptila* (family: Thomisidae) from India. *J. Sci. Cult.*, Calcutta, 30, 152-53.
- Tikader, B. K. (1964b). Zoological results of the Indian Cho-Oyu Expedition (1958) in Nepal, Part 8—Arachnida. *Rec. Indian Mus.*, New Delhi, 59 (3), 257-67.
- Tikader, B. K. (1965a). A new species of spider of the genus *Thanatus* (family: Thomisidae) from India. *J. Sci. Cult.*, Calcutta, 31, 39-40.
- Tikader, B. K. (1965b). On some new species of spiders of the family Thomisidae from India. *Proc. Indian Acad. Sci.*, B, 61, 277-89.
- Tikader, B. K. (1966). On some new species of spiders of the genus *Philodromus* Walck. (family: Thomisidae) from India. *Proc. Linn. Soc. London*, 177 (1), 35-44.

WAS CHĀRUDATTA THE HERO OF THE DRAMA
MṚCCHAKATĪKA A BRĀHMIN?

By DILEEP KUMAR KANJILAL

(Received July 10, 1967)

The *Mṛcchakatika* has been ranked among the very well-known category of dramatic compositions known as *prakaraṇa* whose characteristics have been enumerated in the *Sāhityadarpaṇa* in the following manner:

भवेत् प्रकरणे वृत्तं लौकिकं कविकल्पितम् ॥ २२४ ॥
शृङ्गारोऽङ्गी नायकस्तु विप्रोऽमात्योऽथवा वणिक् ।
सापायधर्मकामार्थपरो धीरप्रशान्तकः ॥ २२५ ॥
[विप्रनायकं यथा 'मृच्छकटिकम्' । अमात्यनायकं 'मालतीमाधवम्' । . . .]
नायिका कुलजा क्वापि वेश्या क्वापि द्वयं क्वचित् ।
तेन भेदास्त्रयस्तस्य तत्र भेदस्तृतीयकः ॥ २२६ ॥
कितवद्यूतकारादिविटचेढकसङ्कुलः । (षष्ठः परिच्छेदः)

The hero of the *Mṛcchakatika* should accordingly be a Brāhmin. But the evidences in the drama itself are not quite sufficient to prove beyond doubt that the hero was a Brāhmin. The opening verse

अवन्तिपूर्वा द्विजसार्थवाहो युवा दरिद्रः किल चारुदत्तः ।
गुणानुरक्ता गणिका च यस्य वसन्तशोभेव वसन्तसेना ॥ (१.६)

introduces the hero as 'dvijasārthavāhaḥ' meaning a Brāhmaṇa who is the leader of a caravan party.¹ The word 'sārthavāhaḥ' has been explained by Hemacandra² as a trader who brings in the articles of trade from afar. Elsewhere he has been referred to as a hereditary merchant residing with the traders.³ But curiously enough Chārudatta has spoken of himself as a Brāhmaṇa having a wife of the same caste⁴ and Vidūṣaka also referred to him in the same strain. The judge, too, referred to him as a 'vipra' in delivering the death-sentence:

अयं हि पातकी विप्रो न वध्यो मनुरब्रवीत् ।
राष्ट्रादस्मात्तु निर्वास्यो विभवैरक्षतैः सह । (नवमोऽङ्कः)

¹ The *Amarakoṣa* explains 'sārtha' primarily as a 'multitude of beasts'; secondarily it means an 'assemblage of traders'. The *Raghuvamśa* uses the word in this sense. The *Mahābhārata*, *Rāmāyaṇa* and the *Pañcatantra* use it in the sense of a 'leader of a travelling company of traders'.

² देशान्तरात् पणयानामाहर्ता ।

³ शतथवाहविणमदत्तश्च एतथिके शास्त्रलदत्तश्च पुत्तके अज्जचालुदत्ते एवम् ।

⁴ कथं ब्राह्मणी मामनुकम्पते (तृतीयोऽङ्कः) । अथ रिपुवचनाद् वा ब्राह्मणं मां निहंसि (नवमोऽङ्कः) । भोदीए दाव वह्मणीए भिन्नत्तणेन चिदाधिरोहणं पावमुदाहरन्ति रिसीओ (दशमोऽङ्कः) ।

It is, therefore, difficult to ascertain as to which caste did he really belong? It is worthy to note in this context that the word 'dvijah' does not necessarily mean a Brāhmaṇa but any twice-born having the rite of initiation. Hence, Manu says:

चूडाकर्म द्विजातीनां सर्वेषामेव धर्मतः । . . . (२.३६)

वैजिकं गार्भिकञ्चैनो द्विजानामणामृज्यते । . . . (२.२७)

The name Chārudatta on the contrary goes to show that he was a Vaiśya. The *Yamasamhitā* (as quoted by Aparārka) suggests as regards the selection of the titles that the names of the Vaiśyas¹ should *inter alia* end in 'bhūti' and 'datta'. Medhātithi (on *Manu*, II.32) upholds² this view. The Talgunda Inscription³ of Kākutsthavarman of the Kādamba family refers to the names of the Kṣatriyas and Vaiśyas with faithful adherence to these rules. The *Sāhityadarpaṇa* has also suggested that the names of⁴ merchants should generally end in 'datta'. The very name 'Chārudatta' clearly shows that he belonged to the Vaiśya community.

The observation of the court regarding Chārudatta's exemption from capital punishment owing to his being a Brāhmaṇa deserves special notice in this context. This is by far the most valid prop. on which Chārudatta's claim for the status of a Brāhmaṇa depends. Manu explicitly states on at least two occasions—

न जातु ब्राह्मणं हन्यात् सर्वपापेष्वपि स्थितम् ।

राष्ट्रादेनं वहिष्कुर्यात् समग्रधनमक्षतम् ॥ (८.३८०)

न ब्राह्मणवधाद् भूयानधर्मो विद्यते भुवि ।

तस्मादस्य वधं राजा मनसापि न चिन्तयेत् ॥ (८.३८२)

and in *Manu* (VIII.124)—अक्षतो ब्राह्मणो ब्रजेत् ।

So Pālaka's order may be explained away as an impudent action. But Gautama (VIII.12-13) and Mitākṣarā (on *Yaj.*, II.4)⁵ contend that this exoneration is applicable only to those Brāhmaṇas who are deeply versed in the Vedic lore and are given to the performance of sacrifices. It, therefore, appears that Chārudatta was a Brāhmaṇa by birth but not by profession. If, however, on the strength of Chārudatta's own statement, अथ रिपुवचनाद् वा ब्राह्मणं मां निहंसि, we accept Chārudatta as a Brāhmaṇa who took to the profession of a caravan leader (*sārthavāhaḥ*), the question remains how a person who is Brāhmaṇ by birth can change his calling and whether such an act has been sanctioned by the law-makers. Interchange of calling was allowed only in special cases, i.e. calamity and acute distress

¹ Pāraskara reads: शर्म ब्राह्मणस्य वर्म क्षत्रियस्य गुप्तेति वैश्यस्य . . . The *यमसंहिता* (p. 27) says: शर्मदिवश्च विप्रस्य वर्म त्राता च भूभुजः । भूतिर्दत्तश्च वैश्यस्य दासः शूद्रस्य कारयेत् ।

² अर्थग्रहणात् स्वामिदत्तभवभूत्यादिशब्दपरिग्रहः (मेधातिथिभाष्य, मनुसंहिता २.३२)

³ *Epigraphia Indica*, Vol. III, p. 24.

⁴ दत्तप्रायञ्च वणिजाम् . . . (Ch. VI).

⁵ यत्तु षड्भिः परिहार्यो . . . तदपि स एष बहुश्रुतो भवति . . . विनीत इति (*Gaut.*, 8.4-11) प्रतिपादित बहुश्रुतविषयं न ब्राह्मणमात्रविषयम् ।

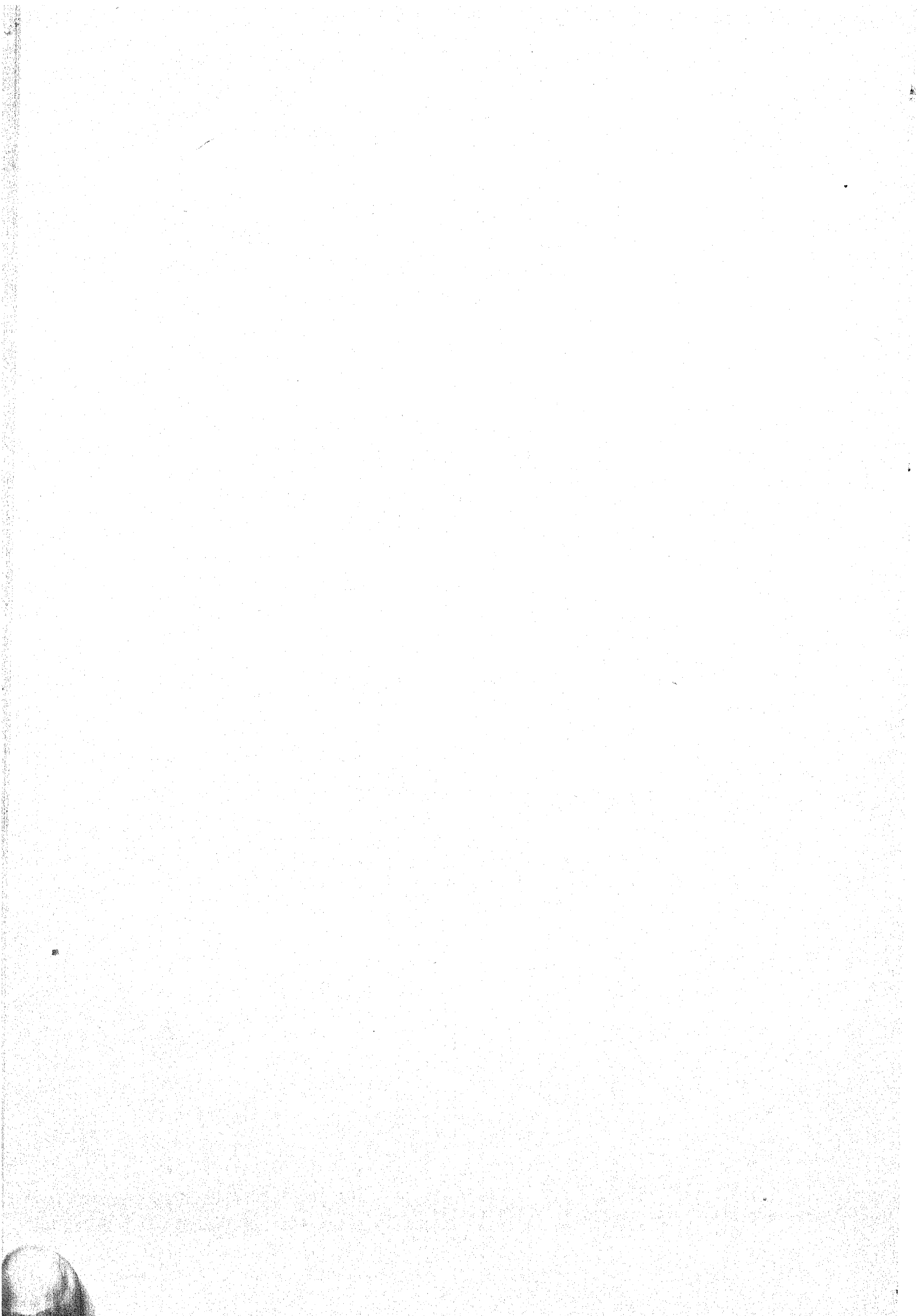
(अपद्), etc., for a Brāhmaṇa, and Brāhmaṇas following the profession of the¹ Vaiśyas and Śūdras were regarded fallen in pedigree. But as Chārudatta has taken to trade as a hereditary profession, this allowance is not applicable to him. The *Atri*² and the *Śātātapa Samhitā* (A.S. verses, 373-383) regard Brāhmaṇas engaged in agriculture, cattle-rearing and other fiscal pursuits as Vaiśya-Brāhmaṇas and they were not entitled to special honour deserving a Brāhmaṇa (अब्राह्मणः स्मृतः). Brāhmaṇas have been divided into several categories like देवब्राह्मण, मुनिब्राह्मण, द्विजब्राह्मण, वैश्यब्राह्मण and शूद्रब्राह्मण by both Atri and Śātātapa. A careful and critical analysis of the way of life of Chārudatta tends to create the notion that he was very probably a Vaiśya-Brāhmaṇa and was quite shorn of the vestige of sanctimoniousness usually attached with a Brāhmaṇa (विप्रः).

The propriety of raising the issue of the caste of a hero in a drama where a connoisseur looks for pure aesthetic bliss may be aptly questioned here. It may be answered that the orthodox Indian opinion considers the love between a Brāhmaṇa hero and a courtesan as improper (अनुचित) from the standpoint of propriety. The social inhibition as regards marrying a Brāhmaṇa by a courtesan has even been echoed by Vasantasenā herself when she said: पूअणीओ कखुं मे वह्मणो जनो ।

The issue of the impropriety of love as well as the problem of passing death-sentence on a Brāhmaṇa may be judged in a new perspective if Chārudatta is regarded as a Vaiśya-Brāhmaṇa in the lines of Atri, Śātātapa and other authorities on *Smṛiti*.

¹ *Manusamhitā*, Ch. X.

² अब्राह्मणाश्च षट् प्रोक्ता ऋषिः शातातपोऽब्रवीत् । आद्यो राजाश्रयस्तेषां द्वितीयः क्रयविक्रयी...अपरार्क (pp. 286-87). The *Atrisamhitā* (Ānandāśrama series, verses 373-83).



NĀMASAṄGĪTI—A RARE BUDDHIST ICON

By DIPAKCHANDRA BHATTACHARYYA

(Received June 9, 1967)

In the collection of the Asiatic Society, Calcutta, there is a manuscript (No. G. 10741. C) of the *Paramārthanāmasaṅgīti* which contains a miniature painting depicting a Buddhist divinity. Mm. Haraprasad Sastri described it as an illustration of Mañjuśrī with eight hands.¹ But on a closer examination of the painting it is found that it represents not an eight-handed, but actually a twelve-handed, divinity (Fig. 1). Mm. Sastri made a mistake in the enumeration of the hands of the figure and this has resulted in its incorrect identification. The representation cannot be that of Mañjuśrī, because a twelve-handed form of the god is unknown both to the *Sādhana-mālā* and to the *Niṣpannayogāvalī*, the two celebrated texts on Buddhist iconography, which describe numerous other forms of the god. Moreover Marie-Therese De Mallmann who has made a comprehensive study of the various forms of Mañjuśrī in her work *Etude Iconographique Sur Mañjuśrī* does not also refer to any form of the god with twelve hands.

The painting under discussion depicts a god, red in colour and seated in the *Vajrāsana* on a lotus. He has one face and twelve hands of which one pair is in the *abhaya-mudrā* (gesture of protection) against the chest, the second pair in the *añjali-mudrā* (clasped hands) over the crown, the third pair in the *tarpaṇa-mudrā* (the gesture of sprinkling water for doing homage to the manes)² and the fourth pair is in the *dhyāna-mudrā* (the gesture of meditation) with a pot containing something like the head of a Buddha. Of the remaining four hands the two right hands hold a sword and an arrow, while the two left hands show a book on a lotus and a bow.

In the collection of Professor S. K. Saraswati there is a Nepalese clay image of a god having almost the same iconography as that of the image described above. Like the painted image the eight hands, out of the twelve, of this clay image are also disposed in four *mudrās*, viz. *abhaya*, *añjali*, *tarpaṇa* and *dhyāna*. Of the remaining four hands the lower right holds the *Viśvavajra* (the double thunderbolt) and the upper right is in a *mudrā* not very distinct, whereas the palm of the upper left hand being broken the attribute or attitude of this hand is uncertain and the lower left hand holds a lotus on which there is something not very clear (Fig. 2). It is to be mentioned that the divinity in this clay image, like that of the painted representation mentioned above, is also single-faced and seated in *Vajrāsana* on a lotus.

Two other bronze images, both hailing from Nepal and conforming in major points to this iconography are also known to us. One of them is

¹ H. P. Sastri, *A Descriptive Catalogue of Sanskrit Manuscripts in the Government Collection under the Care of the Asiatic Society of Bengal*, Vol. I, p. 59.

² Usually in the *tarpaṇa-mudrā* the palms of the hands are shown outwardly. But in the illustration under discussion the hands showing this *mudrā* have the palms so inverted that they are not outwardly visible. This discrepancy is apparently for the artists' inadvertence.

illustrated by Dr. B. Bhattacharyya¹ and the other by Alice Getty.² These two images are also single-faced, twelve-handed, seated in *Vajrāsana* on a lotus and eight hands of each of them are also disposed in four *mudrās*: *abhaya*, *añjali*, *tarpaṇa* and *dhyāna*. The remaining four hands of each of them are empty and probably not in any distinct *mudrā* or gesture.³

Now it is found that the four above-mentioned images have similarity in major iconographic features, viz. the single face, the *Vajrāsana* attitude and the disposition of the four pairs of right and left hands in four *mudrās*: *abhaya*, *añjali*, *tarpaṇa* and *dhyāna*—the variations being only with regard to the attributes or attitudes in the remaining four hands. From this similarity it appears that all the four images depict one and the same god.

Dr. B. Bhattacharyya has already identified the images reproduced by him and Alice Getty as those of the Buddhist god Nāmasaṅgīti with the help of the description of the god found in the manuscript of the *Dharmakoṣasaṃgraha*, preserved in the library of the Asiatic Society.⁴ As a matter of fact, the two other images, one in painting and the other in clay, referred to above, are also to be identified as the representations of the god Nāmasaṅgīti.

The description of the god Nāmasaṅgīti contained in the manuscript of the *Dharmakoṣasaṃgraha* (MS. No. G. 8055) is as follows:—

Ekavaktraḥ śvetavarṇaḥ dhyānanayanah jaṭāmukutaḍharah nānā-lamkāṛālamkṛtaḥ saṃmudrālamkṛtaḥ dvādaśabhujah prathamābhyām savy-adakṣābhyām hrdayapradeśe abhayamudrādvayam, dvayābhyām mukuto-parikṛtāmjalimudrām savyatṛtīyena sadamḍaviśvavajropari khaḍgam, savyacaturthena tarpaṇamudrām savyavāmapañcamābhyām pātrasthāmrtokṣepanamudrām śaṣṭhasavyavāmābhyām sapātrādhyānamudrām, vāmatṛtīyena savajrakhaṭvāṅgam dadhānaḥ kamalopari vajrāsanaḥ ayaṃ Nāmasaṅgītināma buddhobhagavān (fol. 91 B).

The above textual account characterizes Nāmasaṅgīti as a Buddha and as white in colour, seated on a lotus in the *Vajrāsana* and as possessing only one face but twelve hands, of which ten are disposed in five *mudrās* (hand-poses), viz. *abhaya*, *añjali*, *tarpaṇa*, *kṣepana* and *dhyāna*, each *mudrā* being done by a pair of right and left hands. The remaining two hands of the god hold a sword on a double *vajra* (*viśvavajra*) and a *khaṭvāṅga* on a *vajra*.

It is found that this textual description of Nāmasaṅgīti accords almost exactly with the iconography of the images under discussion except, however, a few variations with regard to the assignment of the attributes or gestures in only four hands, out of the twelve, of the images. But these

¹ B. Bhattacharyya, *The Indian Buddhist Iconography*, Second edition, Calcutta, 1958, Fig. 151.

² Alice Getty, *The Gods of Northern Buddhism*, Tuttle edition, plate XX. Getty wrongly identifies this image as the 'Dogmatic Form of Avalokiteśvara; see Getty, op. cit., pp. 66, 67.

³ Dr. Bhattacharyya, however, wrongly ascribes two of these hands of the god to the *tarpaṇa-mudrā*. See Bhattacharyya, op. cit., p. 440. But unfortunately Dr. Bhattacharyya's interpretation of the *tarpaṇa-mudrā* is not correct. He has not cited any authority in support of his interpretation of this *mudrā*. What we can say is that the *tarpaṇa-mudrā* should have intimate connection with *tarpaṇa* or the ritual performed in connection with the paying of homage to the gods and manes. Anybody conversant with *tarpaṇa* is well aware that it can hardly be done with only one hand and that in no stage of this ritual the performer has to bend his arm and to raise it upward in a line with the shoulder. But Dr. Bhattacharyya's interpretation of the *tarpaṇa-mudrā* shows that *tarpaṇa* can be done even with only one hand and that the hand has to bend in the above manner in the ritual concerning the paying of homage to the gods and manes.

⁴ Bhattacharyya, op. cit., p. 207.

variations are not, however, so serious as to prevent us from identifying the images as those of Nāmasaṅgīti. Because, although these seem to be variations in the light of the only description of Nāmasaṅgīti found in the manuscript of the *Dharmakoṣasaṃgraha*, it is not unlikely that there might be other versions of the iconographic description of the god embedded in unexplored manuscripts which would tally in every detail with the iconography of the images under discussion.

In any case, the images in painting and in clay under discussion conform in major points not only to the iconographic description of Nāmasaṅgīti to be found in the manuscript of the *Dharmakoṣasaṃgraha* but also to the iconography of the two other already known bronze images of the god referred to above. As a matter of fact, the images in painting and in clay can well be identified as those of the god Nāmasaṅgīti. The title of the manuscript in which the painted image occurs being *Paramārthanāmasaṅgīti*, the identification of the image as that of Nāmasaṅgīti seems also to be quite plausible.

It can, however, be argued that the god Nāmasaṅgīti is the same as the Nāmasaṅgīti-Mañjuśrī, a form of the Bodhisattva Mañjuśrī, because there is a similarity in their names and because the painted image of the god Nāmasaṅgīti under discussion has in its hands attributes like a sword, a book, the bow and arrow, etc., which are also to be found in the hands of the Nāmasaṅgīti-Mañjuśrī.¹ It is to be mentioned that these attributes are to be found neither in the three other images of the god Nāmasaṅgīti nor in his textual description referred to above. Thus it seems that the similarity in the names Nāmasaṅgīti and Nāmasaṅgīti-Mañjuśrī might have led the painter to a confusion which was responsible for the assignment of the attributes characteristic of Nāmasaṅgīti-Mañjuśrī to some of the hands of the image of the god Nāmasaṅgīti illustrated in the manuscript of the *Paramārthanāmasaṅgīti*.

Nāmasaṅgīti should be distinguished from Nāmasaṅgīti-Mañjuśrī because the former is described in the *Dharmakoṣasaṃgraha* as a Buddha (*ayam Nāmasaṅgīti nāma buddhobhagavān gagane śūnyākāre virājate*),² whereas the latter is definitely known to be a Bodhisattva. Nāmasaṅgīti-Mañjuśrī is a form of, and as such the same as, the Bodhisattva Mañjuśrī, whereas the god Nāmasaṅgīti has no special connection with the Bodhisattva. Moreover there exists basic iconographic difference between the god Nāmasaṅgīti and Nāmasaṅgīti-Mañjuśrī. The former is invariably described and illustrated as possessing only one face and twelve hands, but the latter is always three-faced and four-handed in his textual description and iconographic representation.³ Nāmasaṅgīti possesses a crown of matted hair (*jaṭāmukuta*), but Nāmasaṅgīti-Mañjuśrī wears a crown made of jewels (*ratna-Kirīṭa*).⁴ Moreover Nāmasaṅgīti-Mañjuśrī, unlike the god Nāmasaṅgīti, bears an effigy of Akṣobhya on the crown.⁵ These differences between Nāmasaṅgīti and Nāmasaṅgīti-Mañjuśrī prevent us from identifying the one with the other in spite of the similarity in their names.

¹ Bhattacharyya, op. cit., pp. 115-116. Here the iconography of the Bodhisattva Nāmasaṅgīti-Mañjuśrī has been discussed.

² MS. G. 8055, fol. 91 B.

³ Bhattacharyya, op. cit., pp. 115-116 and Fig. 80. It is to be mentioned that this figure represents a six-handed divinity, but in the *Sādhanaṃālā* Nāmasaṅgīti-Mañjuśrī is described as possessing four hands only. (The *sādhana* of this deity as found in the *Sādhanaṃālā* has been quoted by Bhattacharyya, op. cit., pp. 115 ff).

⁴ Bhattacharyya, op. cit., pp. 115 ff.

⁵ *Ibid.*

Nāmasaṅgīti is in fact altogether a new god who seems to have been introduced into the later Buddhist Pantheon some time after the compilation of the *Sādhana-mālā* and the *Niṣpannayogāvalī*, neither of which describes his iconography. As on the stylistic ground none of the so-far-known images of the god Nāmasaṅgīti can be placed to a period earlier than the seventeenth century and as the iconographic description of the god is found only in a nineteenth century work like the *Dharmakoṣasaṃgraha*, the iconography of Nāmasaṅgīti seems to have originated not earlier than the seventeenth century. Dr. B. Bhattacharyya thinks that like the goddess Prajñāpāramitā, who is the embodiment of the Prajñāpāramitā literature, the god Nāmasaṅgīti is also the deification of the Nāmasaṅgīti literature of the Buddhists.¹ The theory of Dr. Bhattacharyya could be accepted had there been a book in one of the hands of the god Nāmasaṅgīti, like that of the goddess Prajñāpāramitā, as almost a regular attribute. In his book *The Development of Hindu Iconography* Dr. J. N. Banerjea has quoted the colophon of an eighteenth century *Vajrayāna* manuscript collected by Dr. P. C. Bagchi from Nepal which refers to one Śrīvajrācārya Nāmasaṅgītinātha as the author of the *Durgatipariśodhanamukhyākhyāna*.² It is not altogether unlikely that this Vajrācārya Nāmasaṅgītinātha was deified into the god Nāmasaṅgīti like several other well-known Buddhist sages like Nāgārjuna, Asaṅga, Padmasambhava and others who were also deified and were taken into the Buddhist pantheon with their respective iconographic definition.

We cannot conclude this discourse without making a few relevant comments. The extract from the *Dharmakoṣasaṃgraha* quoted above has also been quoted by Dr. Bhattacharyya in connection with his discussion on the iconography of Nāmasaṅgīti.³ But unfortunately his quotation is neither faithful to the original text nor to the recognized method of quoting an extract from a manuscript. The expression *Smeravadanaḥ* inserted into the extract does not actually occur in the manuscript, while the word *sadaṇḍa* occurring in the manuscript before the expression *viśvavajropari* has been left out by him. Moreover in one place he has replaced the word *savya* with *dakṣa* and has changed the expression *savyacaturthena tarpaṇamudrām* into *savyavāmacaturthābhyām tarpaṇamudrādvayam*. The last-mentioned change shows that Dr. Bhattacharyya had a wrong idea about the *tarpaṇa-mudrā*.⁴ It is well known that like the *dhyāna-mudrā*, *añjali-mudrā*, *dharmacakrapravartana-mudrā*, etc., the *tarpaṇa-mudrā* can only be shown by a pair of right and left hands. So, the change of *tarpaṇa-mudrām* into *tarpaṇa-mudrādvayam* is unnecessary. Similarly there was no need for adding the word *vāma* to the word *savya*, because the last-mentioned word itself may be taken to mean both right and left.⁵ But curiously enough Dr. Bhattacharyya has neither given any indication regarding his changes and alterations, nor has he given any explanation for his omissions and commissions.

¹ Bhattacharyya op. cit., p. 206.

² Banerjea, J. N., *The Development of Hindu Iconography*, Second edition, 1956, p. 264 fr. 1.

³ Bhattacharyya, op. cit., p. 207.

⁴ For his interpretation of the *tarpaṇa-mudrā*, see Bhattacharyya, op. cit., p. 440. That this interpretation is not correct has been discussed in note 3, p. 258.

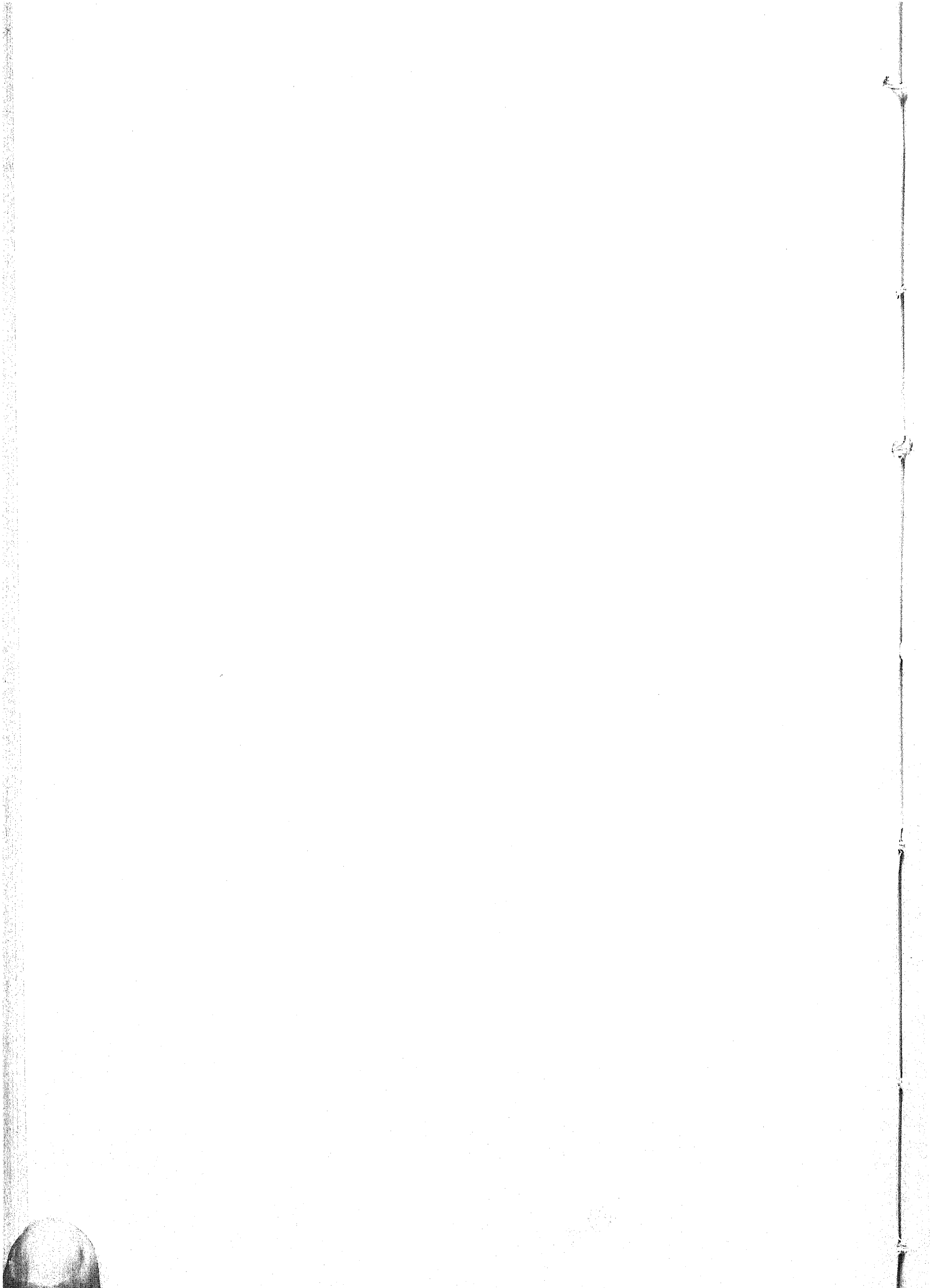
⁵ Monier Williams, *A Sanskrit-English Dictionary*, 1963, p. 1191, Column b.



[Courtesy, Asiatic Society, Calcutta.]
FIG. 1. Nāmasaṅgīti, MS. of *Paramārthanāmasaṅgīti*.



[Courtesy, Professor S. K. Saraswati.]
FIG. 2. Nāmasaṅgīti.



THE COMPOSITE IMAGE OF VĀSUDEVA AND LAKṢMĪ

By DIPAKCHANDRA BHATTACHARYYA

(Received August 9, 1967)

In a learned and interesting article published in the *Journal of the Asiatic Society* Dr. Pratapaditya Pal has drawn our attention for the first time to the existence of the composite form of Vāsudeva and Lakṣmī in images as well as in textual documents.¹ He has studied two images of the composite deity, both belonging to Nepal. One of the images is in bronze and now preserved in the Museum für Volkerkunde in Basel,² while the other is in painting on a *paṭa*, now in the collection of the Ramkrishna Mission Institute of Culture, Calcutta.³ In both the images the right half of the figure is male and the left female, as found in the images of Ardhanārīśvara. Of the eight hands of the deity in each of the images, the four right hands carry discus, mace, conch-shell and lotus, while the four left hands hold lotus, book, mirror and water vessel. Dr. Pal has admirably made his identification of the images conclusive by quoting two corresponding textual documents, one from the *Tantrasāra*⁴ and the other from a Newari inscription⁵ contained in the *paṭa* mentioned above.

As both the images under discussion belong to Nepal and as at least one of the textual documents, viz. the Newari inscription referred to above, definitely comes from Nepal, there cannot be any doubt regarding the prevalence of the composite image-type of Vāsudeva and Lakṣmī in Nepal and her environs. But it is not clear whether this image-type was also prevalent outside Nepal, although the occurrence of the description of such a type in the *Tantrasāra* may point, as Dr. Pal rightly observes, to its prevalence in other regions of Tāntric domination as well. In this connection it may be pointed out that in the *Śilparatna* there occurs the description of the images of the composite forms (*miśra mūrtayaḥ*) of Lakṣmī-Nārāyaṇa and this description tallies with that quoted by Dr. Pal from the *Tantrasāra* and the Newari inscription, particularly with the *Tantrasāra* passage. The relevant passage of the *Śilparatna* is as follows⁶:

¹ Pratapaditya Pal, 'Composite Form of Vāsudeva and Lakṣmī', *Journal of the Asiatic Society*, Vol. V, Nos. 3 and 4, 1963, pp. 74 ff.

² *Ibid.*, Plate I.

³ *Ibid.*, Plate II.

⁴ The description occurs in the following passage of the *Bṛhat Tantrasāra* (Calcutta Vasumati Sahitya Mandir edition, p. 192):

'Vidyuccandranibhaṃ vapuḥ Kamalajāvīkūṇṭhayorekatāṃ
prāptam sneharasena ratnavīlasadbhūṣābharālamkṛtam |
vidyāpāṇkajadarpaṇān maṇimayam kumbham sarojaṃ gadāṃ
Sāṅkhaṃ Cakramamūni vibhrad-amitāṃ diśyācchriyam vaḥ sadā ||'

⁵ The inscription quoted by Dr. Pal in his article is as follows:

'Om namo bhagavate vāsudevāya || himakūṇḍendusadrśam
padmakauṇḍakī-punaḥ | śāṅkhacakradharam daṇḍa (dakṣe)
vāmeca kalasam tathā || darpaṇam utpalam vidyā vaiṣṇavam
kamalānvitam || pātu daitya nīrākāra trāhinām puruṣottamaḥ ||' etc.

⁶ *Śilparatna*, Trivandrum Sanskrit Series, No. XCVIII, Part II, Ch. XXV, verse 75.

‘*Atha Lakṣmī-Nārāyaṇaḥ-
Cakram Vidyādaraghaṭagadādarapaṇān padmayugmaṁ
dorbhīrvibhrat surucitanuṁ meghavidyunnibhāvam |
gāḍhotkaṇṭhāvivaśamanīśaṁ Puṇḍarikākṣa-
lakṣmyorekībhūtaṁ vapuravatu vaḥ pītakaśeya kāntam ||*’

‘Now about Lakṣmī-Nārāyaṇa—

The beautiful body of Lakṣmī, bright as the lightning, and that of Puṇḍarikākṣa (i.e. Nārāyaṇa), having the colour of clouds, are united constantly into one in deep and unrestrained emotion. The deity carries the *cakra* (discus), *vidyā* (book), *dara* (conch-shell),¹ *ghaṭa* (water vessel), *gadā* (mace), *darpaṇa* (mirror) and *padmayugmaṁ* (a pair of lotuses) in the hands, wears yellow silk (garments). Let this deity protect us all.’

There is also another description of this composite form of the deity in the same work, the *Śilparatna*. The description is as follows²:

‘*Lakṣmī-Nārāyaṇam-
Haste vibhrat sarasījagadāśaṅkhacakrāṇi vidyāṁ
padmādarśau kanakakalaśaṁ meghavidyudvilāsaṁ |
Vāmottuṅgastanamaviralākālpamāśuśalobhād-
ekībhūtaṁ vapuravatu vaḥ Puṇḍarikākṣalakṣmyoḥ ||*’

‘About Lakṣmī-Nārāyaṇa—

The body of Lakṣmī, bright as the lightning, and that of Puṇḍarikākṣa (i.e. Nārāyaṇa), having the colour of the clouds, are always united, embracing (each other) out of passion (or love), into one body. This composite deity holds the *sarasīja* (lotus), *gadā* (mace), *śaṅkha* (conch-shell), *cakra* (discus), *vidyā* (book), *padma* (lotus), *ādarśa* (mirror) and the *kanakakalaśa* (golden vessel or a vessel containing gold). The left breast of the deity is high (*uttuṅga*). Let this deity protect us all.’³

It is to be mentioned that the *Śāradātilakatantra* also contains exactly the same passage⁴ as that quoted above in its description of the iconography of Arddha-Lakṣmī-Hari, evidently the composite form of Lakṣmī, and Hari (i.e. Nārāyaṇa).

Now it is found that the two passages from the *Śilparatna* and one from the *Śāradātilakatantra* referred to above describe the same iconography of the composite form of Lakṣmī and Nārāyaṇa and it is significant that this description has some striking similarity with that of the *Tantrasāra* and of the Newari inscription referred to by Dr. Pal. As a matter of fact, all the descriptions of the composite deity, viz. two from the *Śilparatna*, one each from the *Tantrasāra*, the *Śāradātilakatantra* and the Newari inscription, tally exactly with the iconography of the two images dealt with by Dr. Pal. It is to be mentioned that the similarity existing between the *Tantrasāra* passage on the one hand and the passages of the *Śilparatna* and the *Śāradātilakatantra* on the other is not only in iconographic details, but in poetic diction as well. The expression ‘*Vapuḥ*

¹ The word ‘*darendra*’ means Viṣṇu’s conch (*Sanskrit-English Dictionary* by Monier Williams, p. 470), i.e. the great conch. I am indebted to Dr. Satya Ranjan Banerjee for this information and many other constructive suggestions.

² *Śilparatna*, Trivandrum Sans. Series, No. XCVIII, part II. Ch. XXII. V. 23.

³ The translation is not literal, but free.

⁴ *Śrī Śrī Śāradātilakatantra*, Tantric texts (Vol. XVI), ed. by Arthur Avalon, pt. I, ch. VI, verse 45.

The verse preceding this runs as follows:

‘*Arddha-Lakṣmī-Hariḥ sāksād devatā’tra samīritā |
dīrghayuktena bījena śaḍaṅgāni samācaret ||*’

kamalajāvaikunṭhayorekatām prāptam sneharasena of the *Tantrasāra* passage and the expressions '*āsleṣalobhādekībhūtaṁ vapuravatu vaḥ Puṇḍarikākṣalakṣmyoḥ*' or '*gāḍhotakanṭhāvivaśamaśaṁ Puṇḍarikākṣalakṣmyorekībhūtaṁ vapuravatu vaḥ*' of the *Śilparatna* and of the *Śāradātilakatantra* seem to be strikingly similar. Thus it is evident that the authors of the *Tantrasāra*, the *Śilparatna* and of the *Śāradātilakatantra* not only knew the same iconography of the composite images of Vāsudeva and Lakṣmī, but they were also conversant with the same type of philosophy of the concept of the composite form.

Now it is to be pointed out that Śrīkumāra, the author of the *Śilparatna*, was a Keralese Brahmin belonging to the sixteenth century.¹ The occurrence of the description of the composite form of Lakṣmī and Nārāyaṇa twice in the *Śilparatna* definitely shows that the concept of the form was well known to Śrīkumāra. It is hence quite likely that the composite image-type was prevalent in at least some regions of South India, particularly in and around Kerala, the homeland of Śrīkumāra. The importance of the *Śilparatna* passages referred to above hence is that they show that the composite image-type of Vāsudeva and Lakṣmī was prevalent not only in Nepal but also in South India, particularly in the Kerala region.

The prevalence of the image-type in Nepal and in Kerala, two widely apart regions, naturally presupposes its existence also in other parts of India.

The occurrence of the description of the composite image of Lakṣmī and Nārāyaṇa in the *Tantrasāra* and in the *Śāradātilakatantra* probably points to the prevalence of the type even in regions other than Nepal and Kerala, especially in the regions of Tāntric domination. That the concept of this composite form, if not the above-mentioned iconographic motif as such, was known in different parts of India can well be presumed from the fact that a type of *Śālagrāmaśilā*, the well-known aniconic emblem of Viṣṇu, is known as Lakṣmī-Nārāyaṇa² and the nomenclature of the type is explained as '*Lakṣmyānvito Nārāyaṇaḥ*' (i.e. the composite form of Lakṣmī and Nārāyaṇa),³ which reminds us of the expressions '*Vaiṣṭhavam Kamalān-vitam*', used with reference to the composite form of Vāsudeva and Lakṣmī in the Newari inscription contained in the *paṭa* referred to by Dr. Pal.

In his article Dr. Pal says that unlike the conception of Arddhanārīśvara no element of syncretism seems to be involved in the concept of the composite form of Vāsudeva and Lakṣmī.⁴ His thesis seems to be based on the argument that as no separate sect is known to have evolved around Lakṣmī, her presence in the composite image should not be taken as representative of any sect. But it is to be mentioned that, significantly enough, Śrīkumāra, the author of the *Śilparatna*, includes the iconography of Śrī or Lakṣmī in the *Śāktaprakaraṇam*,⁵ i.e. the section dealing with the iconography of the deities of the Śākta sect, and describes the image of Lakṣmī-Nārāyaṇa under the heading of '*Miśramūrtayah*' (i.e. composite images) where several other well-known syncretistic image types like Arddhanārīśvara, Hari-Harṣa, Saṅkara-Nārāyaṇa, etc., have been described.⁶

¹ *Śilparatna*, Trivandrum Sans. Series, No. XCVIII, pt. II, preface.

² For the different types of *Śālagrāmaśilā* see *Devībhāgavata*, Vaṅgavasi ed., part IX, ch. 24, verse 55 ff. Also see *Brahmavaivarta Purāṇam*, *prakṛti-khaṇḍam*.

³ *Sābdakalpadruma*, Motilal Banarasidas, Delhi, Vol. IX, p. 200.

⁴ Pal, *op. cit.*, p. 75.

⁵ The chapter XXIV of the *Śilparatna* is entitled as the *Śāktaprakaraṇam* (*Dhyāne Śāktaprakaraṇam*). In this chapter two *dhyānas* of Śrī occur (verses 9 and 10).

⁶ *Śilparatna*, Trivandrum Sanskrit series, No. XCVIII, pt. II, ch. XXV. Another description of Lakṣmī-Nārāyaṇa occurs in ch. XXII under *Vaiṣṇavaprakaraṇam*.

Although Lakṣmī is not known to have a separate sect of her own, she in fact represents one of the principal manifestations of Śakti, the Divine Female Energy. The *Devīmāhātmya* section of the *Mārkaṇḍeya Purāṇa*, which contains the most representative picture of the characterizations of the Śākta Cult, conceives of three principal forms of the Supreme Female Energy, viz. Mahālakṣmī, Mahākālī and Mahāsarasvatī, the former being the primary goddess from whom the latter two emanated.¹ That Mahālakṣmī is the same as Śrī or Lakṣmī can well be understood from the following verse of the same work, which the gods (devas) utter invoking the Supreme Female Energy as the embodiment of the three principal energies (śaktis), one of them being Śrī (i.e. Lakṣmī), beloved of Viṣṇu:—

‘Medhāsi devi viditākhilāśāstrasāra
Durgāsi durgabhavasāgaranaurasaṅgā |
Śrīḥ Kaitabhārihṛdayaikakṛtādhivāsā
Gaurī tvameva śaśimaulikṛtapratisthā ||’²

It is also significant that in the ‘*Mahālakṣmīmantra*’ section of the *Tantrasāra* there is the prescription for the worship of the Eight Śaktis (divine female energies), one of them being Śrī, i.e. Lakṣmī (‘*Umādyāḥ patramadhyasthāḥ śaktīraṣṭau yajet kramāt | Athomāśrīsarasvatyaḥ durgā-dharaṇīsamṃyutā || Gāyatrī devyūṣā ceti padmahastāḥ suśobhanāḥ*’)³

Moreover in the *Śāradātilakatantra* and in the *Haribhaktivilāsa* of Gopālabhaṭṭa there is a list of fifty-one (*ekapañcāśat*) names of the Śakti of Viṣṇu and quite naturally the name of Lakṣmī figures prominently in the list.⁴

The above discussion shows that Lakṣmī represents one of the principal manifestations of the Supreme Goddess of the Śākta-sect. As a matter of fact, Lakṣmī can well be considered as the representative of the Śākta sect in the composite images of Vāsudeva and Lakṣmī. It will perhaps not be improper, hence, to say that the same spirit of syncretism is involved in the images of Ardhanārīśvara and those of Lakṣmī-Vāsudeva, referred to in the *Śāradātilakatantra* as Arddha-Lakṣmī-Hari,⁵ the former showing syncretism between the Śaiva and the Śākta sects, the latter showing the same between the Śāktas and the Vaiṣṇavas.

We have already discussed above two types of composite images, showing syncretism between the Śākta and a non-Śākta sect like the Śaiva or the Vaiṣṇava sect. It is interesting that the *Śilparatna* describes another such composite image-type in which syncretism between the Śākta and a non-Śākta sect, in this case the Gāṇapatyas, is effected. This composite type is named there as Śakti-Gaṇapati and described as under⁶:

¹ In the *Devīmāhātmya* section of the *Mārkaṇḍeya Purāṇa* we find that the presiding deity of the ‘*Prathamacarita*’ or the first part dealing with the killing of the demons, Madhu and Kaitabha, is Mahākālī, the presiding deity of the ‘*Madhyama-Carita*’ or the middle part describing the killing of the Mahiṣāsura (buffalo-demon) is Mahālakṣmī, and the presiding deity of the ‘*Uttara-Carita*’ or the last part concerned with the killing of the demons Śumbha and Niśumbha is Mahāsarasvatī.

That Mahālakṣmī is the primary goddess from whom the other two emanated can be known from the *Prādhānika-Rahasyam* section of the *Srī Srī Candī*, verses 1–5.

² *Srī Srī Candī*, ed. by Subodh Chandra Majumdar, chapter IV, verse 11.

³ *Bṛhat Tantrasāra*, Calcutta Vasumati ed., p. 145.

⁴ *Śāradātilakatantra*, ed. by Avalon; *Haribhaktivilāsa* of Gopālabhaṭṭa, translated and published by Rāmanārāyaṇa Vidyāratna, second edition, 1298 B.S., pp. 389–390.

⁵ *Śāradātilakatantra*, ed. by Avalon, pt I, ch. VI, verse 44 refers to the composite form as Arddha-Lakṣmī-Hari and the next verse describes the iconography of the form.

⁶ *Śilparatna*, pt. II, ch. XXV, verse 74.

‘*Atha Śakti-Gaṇapatiḥ-
Dvābhyāṃ vibhrajāmānaṃ drutakanaka-
mahāśṛṅghalābhyāṃ karābhyāṃ
Vijapūrādiśumbhaddaśabhujalalitāṃ
pañcabījasvarūpam |
Sandhyāsindūravarnaṃ stanabharanamitam
tundilāṃ sannitambam
Kaṇṭhādūrdhvaṃ Karīndraṃ yuvatimaya-
madhastalam¹ naumi devaṃ (Gaṇeśam) ||*’

‘Now about Sakti-Gaṇapati:

Salutation to the god Gaṇeśa who has an elephant’s head, corpulent belly, vermilion-red colour, well-formed buttocks and breasts and the lower part of whose body is characterized by the youthful femininity. The god is the beloved of Śiva and is adorned with the rosary, etc. In two of his hands he has the chain made of molten gold.’²

From the above iconographic description it appears that Śakti-Gaṇapati, the composite form of Śakti and Gaṇapati, is in fact the female form of the God Gaṇapati or Gaṇeśa, whereas in the two other celebrated composite image-types, viz. Arddhanārīśvara and Arddha-Lakṣmī-Hari, only the left half has female characteristics leaving the right male. But as the iconography of Śakti-Gaṇapati has been described in the *Śilparatna* under the heading of ‘*miśramūrtayaḥ*’ (i.e. composite images) and along with several other well-known syncretistic image-types, e.g. Arddhanārīśvara, Lakṣmī-Nārāyaṇa, Hari-Hara, Śaṅkara-Nārāyaṇa, etc., there can hardly be any doubt regarding the composite and syncretistic nature of the image type of Śakti-Gaṇapati in which syncretism between the Śāktas and the Gāṇapatyas is involved.

Regarding the representation of Śakti-Gaṇapati in art it is to be mentioned that this image type, though very rare, is not totally absent in Indian art. In her book on Gaṇeśa, Alice Getty describes and reproduces an image identified by her as Gaṇeśānī.³ The image is found in the temple of Gaurīśaṅkara at Bhera-ghat in Central India. It represents the feminine form of Gaṇeśa having an attenuated waist, full female breasts, elephant’s head and a crown and ornaments. The deity is seated in the *lalitāsana* and possesses four hands which are broken at the elbows and the attributes in them cannot be ascertained.⁴ The wonderful conformity of this image with the iconographic description of Śakti-Gaṇapati in the *Śilparatna* leads us to identify it as such. We can also refer in this connection to two other representations of this form of the deity. An image of a goddess with bull’s head and having a miniature figure of the male form of Gaṇeśa on her lap has been found from Satna in Central India. It is interesting that on the pedestal of this image there is a separate figure of the elephant-headed Gaṇeśa having youthful female breasts.⁵ Another image found from the ruins of the Tāmreśvarī temple in Assam⁶ also represents Gaṇeśa in the female form, as is evident from the fully formed female breasts of the deity.

¹ The editor of the text gives the reading as:

‘*yuvatimayamadho (tam ?)*’ but it can be emended as ‘*yuvatimayamadhastalam*’.

² The translation is not literal, but free.

³ Alice Getty, *Gaṇeśa*, Oxford, 1936, plate 40. The description of the plate occurs in pp. 29-30 of the book.

⁴ *Ibid.*, pp. 29-30.

⁵ *Annual Report of the Archaeological Survey of India*, 1925-26, plate LIX (C).

⁶ R. M. Nath, *The Background of Assamese Culture*, Shillong, 1948, plate XXV.

We cannot conclude our discussion without referring to the very interesting fact that the major iconographic characteristics of Śakti-Gaṇapati, viz. the vermilion red colour (*sandhyāsindūravarāṇam*), the elephant-head (*kaṇṭhādūrdhvaṃ karīndraṃ*) and the youthful female body from the neck downwards (*yuvatimayamadhastalam*), etc., are also to be found in the iconography of the Tāntric Buddhist goddess Gaṇapatihṛdayā, several images of the goddess being known to us.¹

¹ A beautiful image of this Buddhist goddess is to be found in a miniature painting contained in a manuscript of the *Dhāraṇī-Saṃgraha* (No. G. 10741. D), preserved in the Asiatic Society, Calcutta. In his book, '*The Indian Buddhist Iconography*', Dr. B. Bhattacharyya also reproduces an image of this goddess in figure no. 229.

EVIDENCES OF BUDDHIST PAINTING IN
E. INDIA IN THE 15TH C

By PRATAPADITYA PAL

(Received August 9, 1967)

In an article published in the *Journal of the Royal Asiatic Society* (1965, parts 3-4, pp. 101 f.) I discussed the illuminated covers of a manuscript of the *Kālacakratantra*, now in the University Library, Cambridge. These paintings are evidence of the continuity of the tradition of painting among the Buddhists in eastern India in the fifteenth century. Recently pages of another illuminated manuscript have come to light which not only corroborate that Buddhism was still active in this part of the country well into the fifteenth century, but also that the Buddhists continued to commission the copying of manuscripts as well as illuminating them.

The three stray leaves (Fig. 1) discussed here belong to the collection of Mr. and Mrs. H. K. Swali of Bombay. Like the *Kālacakratantra* manuscript, the substance of these is also palm-leaf and there are five lines of writing on each side. The script is the Bengali of the fifteenth century and compares favourably with that of the above *Kālacakratantra* manuscript or of the *Bodhicaryyāvatāra* manuscript in the Asiatic Society, Calcutta. About the last more will be said later. It must be admitted, however, that Jayarāmadatta, the scribe of the *Kālacakratantra* manuscript, was a more accomplished calligraphist than the person who copied these leaves.

Fortunately the first page of the manuscript has survived which helps us in recognizing the text to be that of the *Kāraṇḍavyūha*. It was a text very popular with the Mahāyānists as it extols their favourite god, the Bodhisattva Avalokiteśvara. Frequently copied in Buddhist countries, a large number of manuscripts of this text have come down to us.

The illustration on the first folio is of a four-armed male figure seated in *lalitāsana*. He is of a white complexion, wears a reddish *dhōti*, indicated merely by horizontal striations, and is adorned with rather broad but simple ornaments, such as *valayas*, a *hāra* and large, circular ear-rings. Five unconnected triangular shapes, like flame-tips, above the head probably represent a crown. The end of a scarf is seen hanging below the two right arms. Since the text begins by invoking Lokanātha or Avalokiteśvara, this four-armed divinity must portray him. It is noteworthy that the hands are left without any attributes and obviously the artist was not well-versed in iconography.

The two other figures are similarly clad and ornamented as the image of Avalokiteśvara and both are seated in *paryāṅkāśana* on lotus seats. The scarf here is more prominently shown and one of them is given an additional garland. The figure displaying the *añjali-mudrā* with his hands is of a red complexion, while the other with the left hand near the breast and the right showing probably the *bhūmiśparśamudrā* is of a green colour. Most likely they represent two of the five Tathāgatas, perhaps Akṣobhya and Amitābha; or they may portray two of the Mahāsattvas, who were present in the Jetavana at Śrāvastī when the Buddha revealed the *sūtra*.

It is obvious that the drawing is somewhat careless and cursory and far less sophisticated than the illuminations on the *Kālacakratantra* manuscript covers (Fig. 2). Probably the scribe himself tried his hand at painting

and hence their rather naïve quality. This is also apparent from the fact that they reveal a lack of proper iconographical knowledge or for that matter a tradition of painting. It is even doubtful if the artist or perhaps the scribe had any models before him to copy. He may have seen a few illustrated manuscripts now and again and these are all the memory images that he could reproduce. The principal colours employed are red, green, yellow and white, but, in their application, once again the artist displays an amateurishness. However less accomplished as works of art, their importance in the history of eastern Indian painting cannot be overlooked and although vaguely, nonetheless, they are related to the more vigorous and lively style apparent on the covers of the *Kālacakratantra* manuscript. In discussing those covers, I had suggested that they point to the birth of a new style in eastern India, echoing something of the earlier Pāla style, drawing elements from that of western India as well as adding a sense of spontaneity and vivaciousness that imparts to the illuminations a quality of freshness.¹ The rather loose drawing and the unsophisticated character of the three illuminations on these leaves of the *Kāraṇḍavyūha* help to corroborate that hypothesis.

It may be pertinent here to reopen the question of the identification of the narrative scenes adorning the outside of the two covers of the *Kālacakratantra* manuscript (Fig. 2), which I had left unidentified in the previous paper. In three successive scenes—it may be recalled that each scene containing only two or three figures is separated from the other by an arched frame and by two alternating shades of red—we see a man worshipping a hare, a goose and a peacock. These represent the *Śaśa*, the *Haṃsa* and the *Mayūra Jātakas*. In each case the bird or the animal is placed on a pedestal and no doubt is being worshipped as a Bodhisattva. In another composition a man stands with a raised sword confronted by a dark figure who has extended his right hand. This must represent the *Kṣānti Jātaka*, when a king, enraged to find a hermit surrounded by royal women, cut off two of the hermit's fingers. The hermit was the Bodhisattva and in the illumination the dark figure is indeed shown as a hermit. The scene where a figure accompanies a calf probably represents the *Vatsa Jātaka*, while that where a figure stands in a reverential attitude before a serpent very likely depicts the *Sattubhastā Jātaka*. In the following scene two men confront each other with folded palms, one of whom appears to be emerging from a flame. This perhaps represents the *Vartakapota Jātaka* which relates that once a forest was on fire, and the Bodhisattva, as a crippled and wingless bird, unable to escape, requested Agni not to burn and so the conflagration stopped. In the next scene a hermit is discoursing with a three-headed and four-armed figure and this may be a very brief depiction of the *Brahmā Jātaka*. The *Vessantara Jātaka* is probably portrayed by the princely rider on a horse, while the scene where three tigers and a man are represented must be the story of the *Vyāghri Jātaka*.

The others are too perfunctorily delineated to be easily recognized and altogether there appear to be twenty such tales portrayed in what must be taken to be the most summary representations of the *Jātakas* known in art. These also remain the only examples of illuminations of the *Jātaka* tales in the illustrated manuscripts from eastern India. There can be little doubt, however, that just as we find the tradition of illustrating the miraculous events from the life of the Buddha in a brief and symbolic manner in the art of the medieval period, similarly there must also have been such

¹ P. Pal, 'A New Document of Indian Painting', *JRAS* (1965, parts 3-4), pp. 110-111.

summary delineations of the Jātakas, for the artist of these covers probably knew of earlier models. If not, his ingenuity is all the more admirable for his choice of the most representative episode of each tale must have been a difficult one.

It has already been remarked that both the *Kālacakratantra* manuscript and these stray folios of the *Kāraṇḍavyūha* add considerably to our knowledge of the continuity of Buddhism in eastern India in the mid-fifteenth century. There is yet another document, although not illustrated, that may be added to this list. In the Asiatic Society at Calcutta is a manuscript of the *Bodhicaryyāvatāra*¹ written on palm leaf in the Bengali script and dated in samvat 1492, corresponding to c. A.D. 1436. The post colophon statement is of considerable interest to the historian and may be quoted here:

sohiñcarigrāmāvasthitakuṭumbikakoccauccamahattama śrīMādhava (mi) trasuta mahattama śrīRāmadevasvārthaparārthahetave Bodhicaryyāvatārapustikā likhyāpitā/ sadbauddhakaraṇakāyasthaṭhakkura śrīAmitābhena likhitamidam venugrāme vikramādityadeva sam 1942 phālguna-sudi 4 kuje/

In a later hand is added the information: *likhitam Guṇakīrti bhikṣudevapādānam . . ./*

The manuscript was commissioned by Rāmadeva, the son of Mādhavamitra; both are styled *mahattama*, and were residents of the village named Sohiñcarī. The term *mahattama* is applied probably to indicate the greatness of the family. The village of Sohiñcarī is difficult to identify. The scribe who is named Amitābha was a Ṭhakkura, probably by caste, a *karaṇakāyastha* by profession, and a devout Bauddha by religious inclination. Sociologically, these facts are of considerable interest. We have pointed out elsewhere² that Jayarāmadatta, the scribe of the *Kālacakratantra* manuscript, also considered himself as a *karaṇakāyastha* and was a *śāsanika* of the village of Ārā. He was, therefore, a scribe by profession but was also the headman of the village. The fact that the Dattas in Bengal today belong to the *kāyastha* caste may indicate that by the fifteenth century, the term had acquired a caste-bias. We know that *kāyastha* denoted a caste at least as early as the ninth century.³

Amitābha, the scribe of the *Bodhicaryyāvatāra* manuscript, however, refers to himself as a Ṭhakkura, which must signify his family name as well as his caste affiliation. Ṭhakkura is a title used both by the Brahmins and the Kṣatriyas in Bihar, particularly in Mithila. The village, Venugrāma, to which Amitābha belonged, cannot be identified with any certainty, and is a common village-name in Bihar and Bengal. It may be recalled that an area near Rajgir in the time of the Buddha was known as venuvana. If then the designation Ṭhakkura indicates his caste, the term *karaṇakāyastha* can only mean his profession, viz. that of a scribe. Thus it would appear that even as late as the fifteenth century, the term did not always come to have a caste significance. The other important fact is that Amitābha, as indeed his name indicates, was a pious Bauddha (*sadbauddha*). Even if the term *kāyastha* implied a caste-affiliation, the fact that he is a Bauddha shows that one could remain integrated in the society as a member

¹ H. P. Sastri, *A Descriptive Catalogue of Sanskrit Manuscripts in the Government Collection*, Calcutta, 1917, p. 21.

² P. Pal, *op cit.*, p. 104.

³ R. C. Majumdar (ed.), *The Struggle for Empire*, Bombay, 1957, p. 477 and *The Age of Imperial Kanauj*, Bombay, 1955, p. 394, n. 93 and 94 and other references cited therein.

of a caste and still worship the Buddha. This may indicate a process of integration of the followers of Buddhism into the general social structure following the destruction of the monasteries centuries earlier. On the other hand, it may also point to the fact that one's religious inclinations did not necessarily exclude one from belonging to a particular caste. This can easily be appreciated if we accept Buddhism to be a sect, no doubt a heterodox one, like Śivaism or Viṣṇuism. Just as a Vaiṣṇava or a Śaiva could remain and was a member of a particular caste, so could a Bauddha. There are many instances in history where a Vaiṣṇava or a Śaiva king marries a Buddhist princess, or a king becomes a devout Bauddha, as for example Harsavardhana but, certainly as far as their social status is concerned, this could not have rendered them casteless.¹ A living example may be seen among the Newars of Nepal, who are divided into two groups religiously, the Bauddhas and the Śaivas, but socially belong to several castes.

The donor of the manuscript, Rāmadeva, and his father, Mādhavamitra, were also Buddhists, and *mitra* in present-day Bengal is a title of the *kāyastha* caste. Later on, probably a century later, the manuscript came into the possession of a monk named Guṇakīrti, who made emendments and corrections. We know that the *Kālacakratantra* manuscript was also commissioned by a monk named Jñānaśrī. Thus it seems that as late as the mid-fifteenth century, and probably in the following century as well, monks and monastic establishments, no doubt of moderate dimensions, were still not unfamiliar in parts of Bihar and Bengal.

¹ King Madhusena of Gauḍa of the thirteenth century is said to have been a devotee of the Buddha (cf. Sastri, *op. cit.*, p. 117). Although we are not certain of his relationship with the Sena dynasty, he must have belonged to the same family and was, therefore, a Karmāta-Kṣatriya. As a result of his being a Bauddha it is doubtful if he was casteless or still less probable an outcaste.



FIG. 1. Three Leaves of a *Kāraṇḍavyūha* MS., H. K. Swali Collection, Bombay.

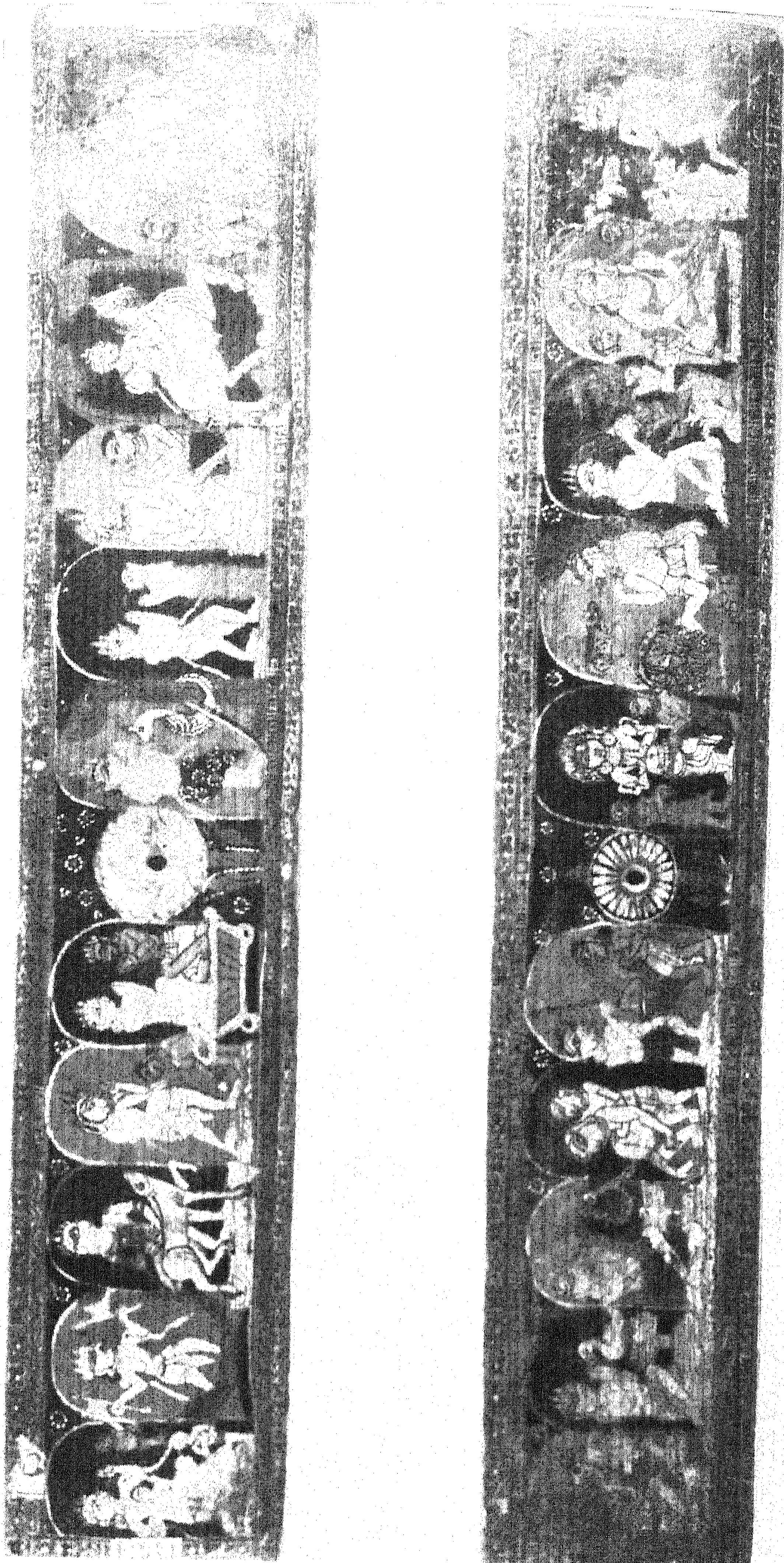


FIG. 2. Covers of a *Kālacakra* tantra MS., showing scenes from Jātakas, Cambridge University Library.

BĀNPUR COPPERPLATE INSCRIPTION OF SOMAVAMŚĪ
INDRARATHA

By KUNJA BEHARI TRIPATHY

(Received June 9, 1967)

The inscription is recorded in three copperplates, the length and breadth of each plate being $10\frac{8}{10}$ " and $7\frac{7}{10}$ " respectively. The first side of the first plate and the second side of the third are not inscribed. So the second side of the first plate, both the sides of the second plate and the first side of the third plate bear the inscription under discussion. The second side of the first plate and the first side of the second plate each contains 18 lines. The second side of the second plate and the first side of the third plate contain 19 and 16 lines respectively. So altogether the inscription consists of 71 lines. Each letter has approximately a length of $3/10$ " and a breadth of $2/10$ ".

The three plates are held together by a ring which passes through holes made at the left side of the plates at the centre. The ends of the ring are welded by a mass of copper which bears on it a seal with what appears to be a 'Gaja-Lakṣmī' figure.

The charter was unearthed while digging for the foundation of the Bānpur College premises in the district of Puri. The place of discovery is about five miles from the Chilka Lake in Orissa on the east coast of India. When my attention was drawn to the discovery of the charter by Sri Syam Sundar Misra, Principal of the College, I inspected the site on 15.9.1963 and found that the charter was partly illegible because of rust. From 22.9.1963 up to 12.6.1966, the charter remained in the custody of the late Godavaris Mahapatra, a member of the Governing Body of the Banpur College, and his son-in-law, Sri Kisor Candra Misra. The latter made over the plates to me on 12.9.1966. The charter was cleaned in the Chemistry Laboratory of the Ravenshaw College by Sri Rabindra Nath Nanda, M.Sc., with the approval of Dr. M. C. Rout, the head of the said department. Kumari Ketaki Nayak of the Sailabala Women's College, Cuttack, devoted some time with me in deciphering the charter and Sri Rajendra Prāsad Mahanti, Lecturer, Ravenshaw College, Cuttack, helped me in preparing the copies suitable for the press. I am indebted to Kumari Nayak and all the above-mentioned gentlemen for their co-operation.

The language of the inscription is Sanskrit, though a few typical Oriya words are embedded in the prose portion. The script of the record is what is ordinarily called Kuṭila but which may be called proto-Oriya (or proto-Bengali after Bühler), the letters having horizontal stop strokes. The script may also be called Gaudī after Dr. D. C. Sircar. The charter is dated in the sixth regnal year of *Mahārājādhirāja* Indradeva and belongs to the first half of the eleventh century A.D.

The charter begins with a verse invoking Lord Śiva. This is followed by four other stanzas describing the city of Yajāti-nagara which is ordinarily identified with modern Jajpur on the river Vaitaraṇī in the district of Cuttack. The next five verses describe the ancestry of Indraratha, the donor of the grant under discussion. The dynasty is traced to the

moon and is stated to have produced in due course King Bhīma who had a queen named Durgā. The next four verses recount the birth of Indraratha as the son of Bhīma with his two younger brothers, viz. Baṅkaratha (Vakraratha) and Śaṅkararatha. Indraratha is said to have got the royal fortune of Kalinga, because he was a favourite of Dharmaratha. We know from other records of the dynasty that Dharmaratha was also the son of Bhīmaratha. It is obvious, therefore, that the mother of Dharmaratha was the eldest queen of Bhīmaratha and that Dharmaratha and Indraratha were brothers though born of different queens. It is also said that he defeated in battle an Udra king and got possession of his kingdom by strength of his arms. In the next *śloka*, there is reference to a king called Vatsarāja and to another named Abhimanyu. In the following verse, we are told that Abhimanyu was destroyed by him, along with his high officers, in the battlefield and was thus deprived of his illegal possessions. It appears that this Abhimanyu was the father of Candīhāra Yajāti who succeeded Indraratha as is known from other records. Though Indraratha was a powerful king and bore the title of *Mahārājādhirāja* and patronized art and architecture, yet, while offering valiant resistance to Rājendra-coḷa, the famous Coḷa monarch of South India, he is said to have been defeated and killed. Rājendra-coḷa refers to his victory over Indraratha in his inscriptions. The battle between Indraratha and Rājendra-coḷa took place between about A.D. 1023 and A.D. 1030. We know that Rājendra-coḷa reigned from A.D. 1012 to A.D. 1044.

The defeat of the Somavaṁśī monarch Indraratha by Rājendra-coḷa had no permanent effect on the history of Orissa because, after the reign of Indraratha, Orissa was ruled by Yajāti mentioned above as we know from his copperplates. So far we had no inscription of Indraratha. The present charter thus offers valuable help in regard to the identity of Indraratha and his place among the Somavaṁśī kings of Orissa.

The charter registers the gift of a village called Lapukumbha to the Brāhmaṇas. The village was situated in the subdivision of Khallakhaṇḍa in the district of Thorāṇa which belonged to Koṅgoda-maṇḍala. The word *Lapu* may perhaps be derived from *alāvu* (gourd). Literally, the name refers to a village where gourds are used as pitchers. The expression Khallakhaṇḍa indicates an area which is rather shallow or marshy. In modern Oriya, the word *khalla* appears as *khāla*. The lake Chilka and its surrounding region is definitely a shallow and marshy region. The district of Thorāṇa is also mentioned in the Khurda copperplate grant of Mādhava, which belongs to a date not later than the seventh century A.D. That grant registers the gift of the village Kumbhārache in the district of Thorāṇa. I have not been able to identify the village as yet. The writer of the charter was Amṛta Candra and it was engraved by a smith called Heruka. Sri Kedarānatha Mahapatra of the State Museum, Bhubaneswar, draws my attention to a village called Sorāṇa which might be a corruption of Thorāṇa.

The prose portion of the charter enumerates a number of interesting taxes from which the gift land is made immune; the names of some of the officers, such as *Samāhartr*, *Sannidhātr*, etc., occur in the *Arthaśāstra*. Some of the taxes enumerated, such as *andhārua*, *pratyandhārua*, *chittola*, etc., still defy interpretation.

The prose portion of the charter is immediately followed by 12 imprecatory verses quoted from religious texts. The charter altogether consists of 31 verses and two prose passages.

REFERENCES

- Chronology of the Bhaumakaras and the Somavamśīs of Orissa*, by Dr. K. C. Panigrahi, 1961.
 Bharatiya Vidya Bhavan's *History of Culture of the Indian People*, Vol. V, Bombay, 1957 (Section by Dr. D. C. Sircar).
Dynasties of Mediaeval Orissa, by B. Mishra, 1933, Calcutta, pages 66-73.
Archaeological Remains at Bhubaneswar, by Dr. K. C. Panigrahi, pages 89 and 249.
 'Balijhari (Narasimpur) copperplate of Somavamśī Udyatokesari Mahābhavagupta'.
Indian Historical Quarterly, Vol. XXXV, No. 2 (June 1959).
History of Orissa, Vol. I—Dr. H. K. Mahatab.
 'The Kesari Dynasty of the Mādalāpāñji'—P. Acharya. *J.A.S.*, Vol. IV, No. 1, 1962.

A BRIEF SUMMARY OF THE ARTICLE ENTITLED BĀNPUR COPPERPLATE
 INSCRIPTION OF SOMAVAMŚĪ INDRARATHA

The newly-discovered charter engraved on three copperplates and deciphered for the first time by the author glorifies the Somavamśī monarch named Indraratha who granted a village to the Brāhmanas in the district of Puri near the Chilka Lake. The document is written in Sanskrit verses in various metres. In the grant portion written in Sanskrit prose, the categories of officers enumerated and the list of taxes from which the gift-village is made immune are interesting. Some of these have not yet been properly interpreted. The charter offers valuable addition to our knowledge of Somavamśī history. It belongs to the first-half of the eleventh century.

TEXT

First plate, reverse

स्वस्ति *

इन्दु(ः) जटासु विशदोऽग्निशिखापिषङ्गी
 लालाटचक्षुषि गले विषमञ्जनाभं
 सत्त्वं रजस्तम इति त्रिगुणस्य तस्य
 स्थानक्रमं गतवतेऽस्तु नमः शिवाय ॥ (1)

स्वस्ति श्रीमति यत्र सौधशिखरन्यस्तैरतीवस्फुरद्
 भाभिः काञ्चनकुम्भकैरतिशयप्रोद्दीपितव्योमनि
 लोकैरुत्कटविस्मयव्यतिकरैः स्फारीभवल्लोचनैः
 स्थानस्थानगतिक्रमेण कथमप्यालक्ष्यतेऽर्हपतिः ॥ (2)

प्रासादमौलिषु कराव्जपरम्पराभि-
 राकृष्यमाणपरिलम्बिनभःप्रचारः
 यस्मिन् निशासु निशितद्युतिचन्द्रविम्ब-
 मायोज्यते मकुरकृत्यविधौ वधूभिः ॥ (3)

यस्मिन् अस्पृशतः क्षितिं खुरपुटैर्वाहानसंख्यानपि
 प्रत्येति सुदृशा जनो न तु रजोभारैः समुत्सर्पिभिः
 अन्यद् यस्य जलाशयेषु युगपद् दन्तावलानां गणैः
 अन्योन्यप्रतिपन्नङ्गिण्डमरवैरम्भःसु गुपीयते ॥ (4)

* Indicated by a sign.

यद्भुमीवलयस्य भूषणनिधिर्यस्यापि सौधश्रियो
 यत्सौधस्य मृगीदृशो मुगदृशां यत्वृत्तिनां नान्वन् वः(?)
 यस्यास्तोरणचित्रकर्मकनकग्रैवेयकादि स्फुटं
 व्रीथीभूतमथेदमप्यनु मुहुः क्रीडेति सम्पाद्यते ॥ (5)

तस्मात् श्रीययातिनगरात्

पिनाकीलोकेभ्यः क्षितिपरिसरे धर्मविगति-
 म्विदित्वैवाक्तं ? य स्वयमनयदादेशपदवीं
 विवस्वन्नीमानखचरमचिरादेव भवता
 धरित्री गन्तव्या शमयेत् तमधर्मोर्जितमिति ॥ (6)

अक्षत्रियकुले भूत्वा सकुटुम्बो महाद्भूतं
 करिष्यामीति तेनापि प्रतिजज्ञे शिवाग्रतः ॥ (7)

तस्य तनयेषु मध्ये महानुभावो महेश्वरे भक्तः
 भगवन्तमम्बिकापति मवतारि(रां) पूर्वजो दध्यौ ॥ (8)

भगवति च सानुकम्पे निजकुलभूपाञ्च पावितरि चन्द्रे
 पितुराशयस्य च वलादलम्भि तेन इन्द्रराज्यवरलाभः ॥ (9)

शिरसिकृतशिवाज्ञो मर्त्यलोके विवस्वा-
 नजनि च कुलपुत्रो भीमनामोत्तमोश्ची(?)
 अयमलभत दुर्गा पूर्वपत्नीञ्च पत्नी
 मजनयदथ तस्यां पूर्वपुत्रीञ्च पुत्रान् ॥ (10)

Second plate, obverse

श्रीमानिन्द्ररथोऽजनि प्रथमतः सौन्दर्य-शौर्य-क्षमा-
 धर्म-त्याग-दया-विवेक-विनय-प्रागल्भ्य-सत्याश्रयः
 प्राभूतामथ विक्रमादिकगुणग्रामैकलीलास्पदे
 पूर्वं वङ्करथोऽथ शङ्कररथस्तस्यानुरूपानुजौ ॥ (11)

योसाविन्द्ररथ(ः) रथाङ्कमहिमा सोमान्वयक्षमापतिः
 श्रीमद् धर्मरथस्य वल्लभतया लेभे कलिङ्गश्रियं
 संजग्राह च विग्रहे भुजवलात् तामुडहस्तादहो
 विक्रान्तिर्महती(ः) पदातिवहुताल्पत्वे तु न्यस्तादरः (त्वन्यस्तादरः) ॥ (12)

स्वर्गिधर्म(?) धरापतौ गतवति श्रीवत्सराजो नृपो(?)
 भृत्यान् सादयति प्रजामिति मुहुः श्रुत्या जनेभ्यो गिरं
 य आगत्य कलिङ्गतो निजभुजादर्पेण दृप्तात्मकः
 व्याहृत्यैनमुदात्त(?) वृत्तिहृदयो(ऽ) धत्त(ऽ)भिमन्युमतः(?) ॥ (13)

यो विद्वानभिमन्युमत्यनुचितप्राप्ताधिपत्यं भुवो
 वद्वस्यानधिकारिणः (:) रणभूवि व्यापारयद (न ?) द्वेषिणं
 तल्लक्ष्मी द्विजसत्तमैरनुमतामास्वाद्य स्तम्याद्यप (?)
 त्रैराज्यञ्च तुरङ्गकेण जगृहे येनाथ राज्यान्तरम् (?) ॥ (14)

परममाहेश्वर-मातापितृपादानुध्यात-परमभट्टारक-महाराजाधिराज-परमेश्वर-सोमकुल-
 तिलक-त्रिकलिङ्गाधिपति-श्रीमदिन्द्ररथराजदेवः कुशली ॥ कोङ्गदमण्डलीय-थोरणविषय
 सधृत (text धृत) खल्लाखण्डीय लपुखम्बग्रामोस्तस्तद्विषयीय-ब्राह्मणानपूज्य समाहृत-
 सन्निधातृ-नियुक्ताधिकारिक-दण्डपाशिक-पिशूनवेत्रिक-(अ) वरोधजन-राज्ञी-राणक-राजपुत्र-
 राजवल्लभ-भोगिजनप्रमुखसमस्तजनपदान् समाज्ञापयति । विदितमस्तु भवतां यथास्माभिरयं
 ग्राम सप्रतीहारः सर्ववाधावर्जितः पदातिजीव्य-अन्धरूवा-प्रत्यन्धरूवा-अदत्तादान-हस्तिदण्ड-
 चिट्टोल-शावरदानकरण-छाया-अन्तरा वद्दि वर-वलीवर्द-सर्वोपरिकरादानसहितः सजलस्थल-
 गात्तोसर-चतुःसीमापर्यन्त-साम्ब्र-मधुकप्रभृति-

Second plate, reverse

नानावृक्षसन्निधिः सोपनिधिः श्रीखदिरवर्णीभट्टारिकाया वलिचरुनैविद्यं प्रदाय लोलोय-
 पसो (?) आचन्द्रार्कमितसमकालोपभोगाय मातापित्रोरात्मनश्च पुण्याय यसोभिवृद्धये सलिल-
 धारापुरःसरं ताम्रशासनेनाकरीकृत्य प्रतिपादितः इत्यवरय समुचितकरभोगभागादिकमुप-
 नयद्भिः सुखेन प्रतिवस्तव्यमिति ॥ भाविभिश्च भूपतिभिर्दत्तिरियमस्मदीयधर्मगौरवादानु-
 रोधाच्च स्वदत्तिरिवानुपालनीया तथाचोक्तं धर्मशास्त्रे

वहुभिर्वसुधा दत्ता राजभिः सगरादिभिः
 यस्य यस्य यदा भूमि तस्य तस्य तदा फलम् ॥ (15)

(There are 10 more imprecatory verses here.)

सामान्योऽयं धर्मसेतुर्नृपाणां काले काले पालनीयो भवद्भिः सर्वानेतान् भावि-

Third plate, obverse

नः पार्थिवेन्द्रान् भूयो भूयो याचते रामचन्द्रः । (26)

इति कमलदलाम्बुविन्दुलोलां श्रियमनुचिन्त्य मनुष्यजीवितञ्च
 सकलमिदमुदाहृतञ्च बुद्ध्वा न हि पुरुषैः परकीर्तयो विलोप्याः ॥ (27)

यद्वाणाः पक्षपालीपवनरयपरिष्वङ्गसन्दीप्तविद्युद्
 वह्निज्वालासमूहैरनुमितजलदव्यूहसंचारलील
 उद्गवन्तो घनेभ्यस्तदनु च शिखया गुम्फितानेकतारा-
 सन्तानग्रन्थिलास्ते कथमपि धरणीपृष्ठपर्यन्तमीयुः (?) ॥ (28)

तस्यान्तस्थित (?) चन्द्रशेखरपदद्वन्द्वस्य मन्दाकिनी
 तोयादस्यधिकादरद्विज यदाम्भोभिः समभ्युक्षितः (?)
 विद्या-निजवेश्मनो जलनिधिलोकान्तकस्यामति (?)
 विश्वाराधिनि सन्धिविग्रहपदं (?) स्वामिश्रिये जाग्रति ॥ (29)

उद्घाद्य प्रतिकुम्भिनां(?) भयरुक् तन्मौक्तिकश्रेणीभिः
 कृत्वाथो निजदेहमण्डनविधिर्यत्स्वाङ्गलेखानटाः(?)
 संग्रामाङ्गणारङ्गभूमिमुमुहुः(?) स्वच्छन्दतो लीलया
 नृत्यन्ती हृदयंगमा समभवन् (text -द) विद्वेषी भूमिभुजाम् ॥ (30)

असौ निजभुजांसनिक्षपितवैरिभूभृत्कलः
 महाक्षपटली यशःपटलकौमुदीचन्द्रमाः
 कलानिवहजन्मभूरमृतचन्द्रनामा
 निधिः समस्तगुणसम्पदामिदमलीलिखच्छाशनम् ॥ (31)

परममाहेश्वर-महाराजाधिराज-श्रीमदिन्द्ररथराजदेवस्य प्रवर्द्धमानविजयराज्ये षष्ठे
 सम्बत्सरे कार्तिकमासि शुक्लपक्षद्वितीयायां तिथौ लिखितमिदं पत्राङ्कितमपि (text
 पत्राङ्कितमपि) सम्बत् **त** कार्तिकशुदि **३** विजानिवा हेरुकेण उत्कीर्णम् (1)

REVIEWS OF BOOKS

THE AUDUMBARAS. By Dr. Kalyan Kumar Das Gupta. Calcutta Sanskrit College Research Series. 1965. Pp. xv + 42 with six plates. Price Rs.4.

This is a short critical account of the Audumbaras, a non-monarchical ruling clan in ancient India known mostly from coins and literature. Hitherto their history has been briefly dealt with in connection with the study of coins of ancient India and short accounts are to be found in the general historical texts dealing with ancient India. The book under review for the first time attempts a critical and detailed account of the clan from all important points of view, such as its antiquity, origin, form of Government, religion, economic condition and ethnology. The materials available are so scanty that it is not possible to say much on any of these points, but the author has thrown new light on most of them. On the basis of a passage in Candragomin's *Cāndravyākaraṇa* which mentions the Audumbaras as a section of the Sālvas, referred to in the *Śatapatha Brāhmaṇa* as a powerful people, the author concludes that the Audumbaras existed in the Brāhmaṇa period. This may be a reasonable conclusion and the author has done a good service by bringing to light the new evidence, but it may be justly questioned whether we may rely absolutely on a text of the fifth century A.D. about the state of things more than a thousand years old and, even if we trust it, we shall be justified in assuming that the Audumbaras had branched off from the main stock of the Sālvas as a distinct clan about three hundred years before we get the first reference to them. While discussing the origin of the tribe the author has made a distinct contribution to our knowledge by bringing out the legendary connection of Viśvāmitra whose name and figure appear on the coins of the Audumbaras with this tribe (p. 7). The author has advanced some arguments to show that the Audumbaras were not a republican clan, as is generally supposed, but had a theocratic form of Government. The author has suggested on good grounds that the Audumbaras grew prosperous through the sale of woollen goods. He has also accepted the other view of Przyluski that the Audumbaras were not Aryans but Austro-Asiatic and had close affinities with the Kols or Mundas who still live in Chota Nagpur.

The author has dealt in detail with the coins of the Audumbaras, specifying the varieties in each of the three classes into which he has divided them, and discussing their chronology and interpretation of the devices and symbols on them. The coins are illustrated in five plates.

The small book gives good evidence of the scholarship and industry of the author as well as of his critical ability, and must be regarded as a valuable contribution to our knowledge of the non-monarchical clans of ancient India.

R. C. MAJUMDAR

SAMĀJSAMSKĀRAKA RAGHUNANDANA. By Bani Chakravarti. Published by the Author; available at D.M. Library, 42 Bidhan Sarani, Calcutta 6. Pp. iv + xiii + v + 318. 1964. Price Rs.7.50.

Hindu society in Bengal today is ruled largely by the regulations formulated by Raghunandana who lived in the end of the fifteenth and the

beginning of the sixteenth centuries. A general opinion is current that while Chaitanya and Nityānanda tried to preserve Hinduism by liberalizing it, Raghunandana brought about a puritanic reform in that society, and eventually succeeded in making it more rigid and ritualistic than ever before.

The author, who is a distinguished scholar in Sanskrit and also in the Smritis, tries to controvert this view. She discusses with erudition the details of the reforms brought about by Raghunandana in *ācāra*, *vyavahāra* and *prāyaścitta*. She shows from a discussion of authorities prior to Raghunandana how the bonds of Brahmanical religion and society had become loosened under the impact of Buddhism and the Tantras, as well as the political and social influences of Islam. She tries to show by a detailed examination of Raghunandana's recommendations how he tried, firstly, to bring order out of chaos and firmly restore the rules of Brahmanical purity and, secondly, how he tried to make certain concessions in consonance with the prevailing practices (or loosenesses) of the times.

The author believes that Raghunandana was a great social reformer, and succeeded in preserving the structure of Hinduism in Bengal when it had become very seriously threatened.

The book is scholarly and inspired by a noble purpose. But the author has perhaps overlooked one important question. In the times when Raghunandana lived in Bengal, society and culture were undoubtedly subject to great strains. Brahmanical values had lost much of their hold on society; and all that Raghunandana attempted to do was to restore those values without subjecting them to fresh examination. He took the superiority of the Brahmanical system of *Varṇāśrama* for granted, and had nothing new to offer in consonance with the challenges thrown up by either Buddhism or the Tantras or even by Islam. The author tends to agree with Raghunandana in the opinion that the influences of the latter were wholly evil, and their challenges could be wholly disregarded.

This in itself is questionable. But nobody should, on that account, fail to appreciate the sincerity and scholarship which is in evidence in every page of the book under review.

NIRMAL KUMAR BOSE

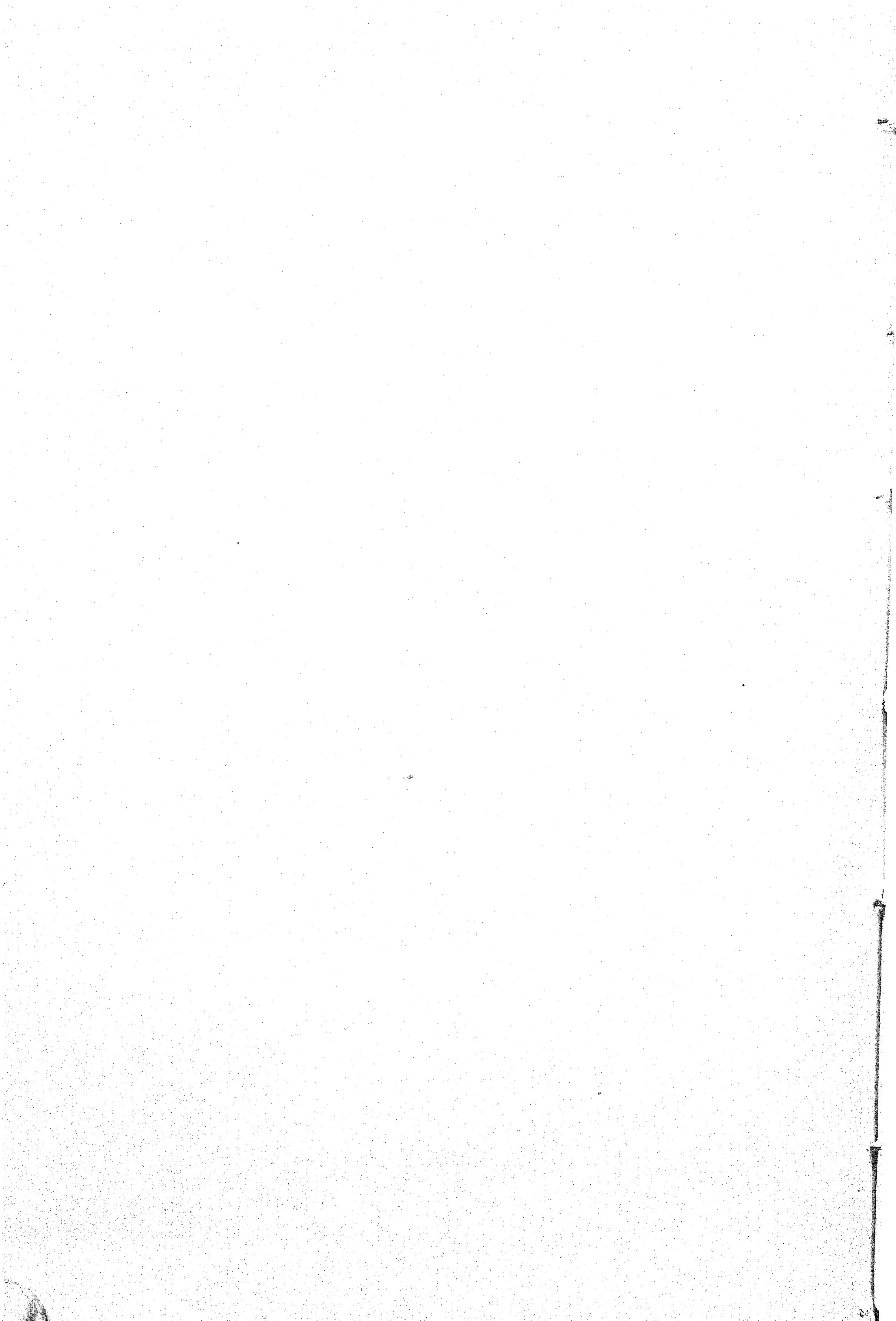
BIBLIOGRAPHY OF TIBETAN STUDIES

Being a record of printed publications mainly in
European languages

by

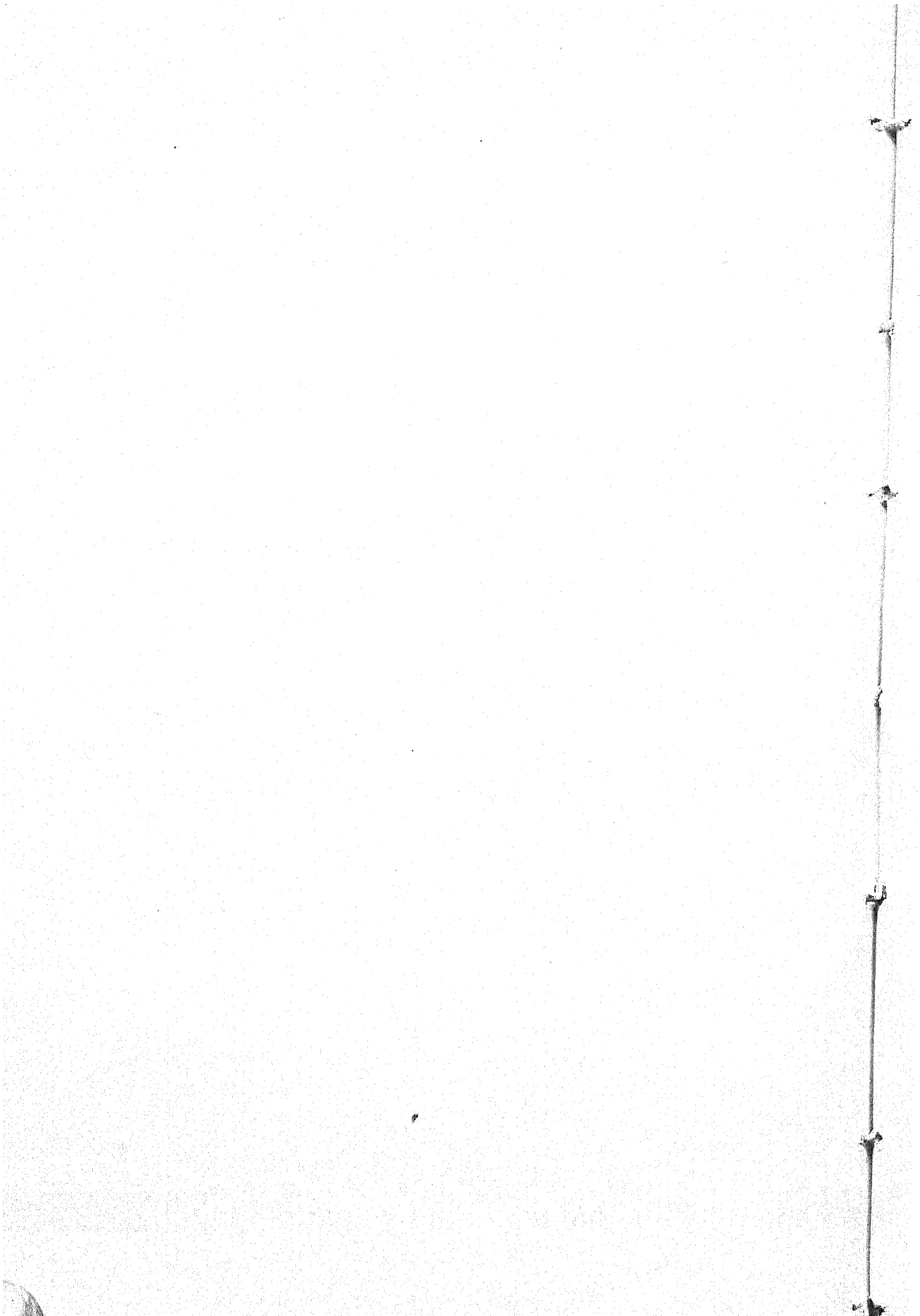
SIBADAS CHAUDHURI

Continued from the
Journal of the Asiatic Society, 4th Series, Vol. IV, Nos. 3 and 4, 1962.
Supplement, page 168



SUBJECT INDEX

[The numbers refer to the serial numbers in the Bibliography]



PHILOSOPHY AND RELIGION

A

- Abbot (Tibetan), 1877.
 Account of Buddha's Nirvāṇa and the first Councils according to the Vinayakṣudraka, 1249.
 Amitāyus or Aparimitāyus (Tibetan Ts'e-dpag-med), 1878.
 Aperçu d'un memoire intitule: Recherches chronologiques sur l'origine de la hierarchie lamique, 1409.
 Atisa—historical position of Atīśa's doctrine, 2009(a).
 Atīśa (or Dipaṅkara), 1864.
 Aus dem Lande der Lebenden Buddhas. Die Erzählen. v. der Mission George Bogle's nach Tibet u. Thomas Manning's Reise nach Lhasa (1774 u 1812), 1161.

B

- Berge, Buddhas und Bären. Forschung und Jagod im geheimnisvollem Tibet, 1543.
 Bkah-brgyud sect of Lamaism, 1104.
 Bon, the magico-religious belief of the Tibetan-speaking peoples, 1102.
 Book-procession of the Tibetan Lamas, as seen at Darjeeling, 1195(b).
 Bouddhisme thibetain, 404.
 Brahma und Buddha. Die Religionen Indiens in ihrer geschichtlichen Entwicklung, 671.
 Brief sketch of the Bon-po religion of Tibet, 308.
 Bronze objects collected by Prof. G. Tucci in Tibet. A short survey of religious and magic symbolism, 193.
 Buddha, sein Leben, seine Lehre, seine Gemeinde, 1263.
 Buddha's law among the birds. (By a chos rin-chen 'phren-ba), 241.
 Buddha's mission and last journey. *Buddhacarita*, XV to XXVIII, 938.
 Buddhism. The science of life, 231.

- Buddhism, a sketch of the life and teachings of Gautama the Buddha, 1414.
 Buddhism and Lamaism. A study of the religion of Tibet, 452.
 Buddhism in Bhutān, 1865.
 Buddhism in Tibet. Illustrated by literary documents and objects of religious worship, with an account of the Buddhist systems preceding it in India, 1562.
 Buddhism of Tibet, 239, 450.
 Buddhist canons, 1504.
 Buddhist Himalay. Travels and studies in quest of the origins and nature of Tibetan religion, 1643(a).
 Buddhist manuscripts at Gilgit, 438(a).
 Buddhist praying-wheel, 1636.
 Buddhist studies with special reference to Tibetan, 118.
 Buddhists and Glaciers of Western Tibet, 292.
 Buddijskij filisof o edinožii, 1542.
 Buddijskoe iskusstvo v Indii, Tibetě i Mongolii, 1269.
 Bu-Ston. A history of Buddhism (Chos-hbyong). 1—The jewellery of scripture, 1247.
 Bu-Ston. 2—History of Buddhism in India-Tibet, 1248.
 Bu-Ston's history of Buddhism and the Mañjuśrī-mūlatantra, 1257.
 Butter gods of Kum Bum Buddhist festivals, 538.

C

- Calling the soul: A lamaist ritual, 1093.
 Celibacy (Tibetan), 1866.
 Ceremony of breaking the stone. 'Pho-Bar Rdo-Goog', 1470(c).
 Chant sixième des 100,000 Chants de Milarepa, 1184(a).
 Chants from Shangri-la, 1625(a).
 Charms and amulets, 1867.
 Chibetto ni okeru Indo Shina Ryō Bukkyō Kōshō no Rito-koma-Teson-de-tsen Ō no chi-ka ni okeru

- Ryō Koku Sōryo no Hōron ni tsuite (On the discussion between Indian and Chinese *Buddhist* priests at the Court of the Tibetan King), 2007(i).
- Chief Lama of Himis on the alleged «Unknown Life of Christ», 419.
- Chinese Imperial Edict of A.D. 1808 on the origin and transmigrations of the Grand Lamas of Tibet, 1871.
- Chorten (Tibetan name for the solid funeral monuments erected over the relics of Buddha and his saints), 1868.
- Christianity in China . . . and Thibet, 883(a), 1212.
- Comment s'est fondé le pouvoir temporel des Dalai-Lamas, 1188.
- Composition des Ecritures Boudhiques. (Fragment du Mahākaruṇapundarīka-sūtra en Tibétain), 474.
- Contribution on the religion, history, etc., of Tibet, 295:
- (i) Bon (Pon) religion
 - (ii) Dispute between a Buddhist and a Bonpo Priest for the possession of Mount Kailāsa and the Lake Mānasa
 - (iii) Early history of Tibet
 - (iv) Rise and progress of Buddhism in Tibet
 - (v) Lives of Panchhen-Rinpoches, or Tasi Lamas
 - Indian incarnations
 - Six Tibetan incarnations
- Controverse bouddhique tenue au Tibet, 368(a).
- Cotton-clad Mila. Tibetan poet-saint's life in pictures, 1580(c).

D

- Dagoba Lamasery, 213.
- Daily Religious Service in the Grand Monastery of Tashi-Lhunpo, 309.
- Dalai Lama's new 'Tse-boum' from Paris, 371.
- Dalai Lama's seal, 594, 1874.
- Dalai Lamas of Lhasa, 1306, 1466; of Tibet, 1477(a), 1626(a); their relations with the Manchu Emperors of China, 1644–1908, 1467.
- Das buddhistische Sūtra der Acht Erscheinungen, 897.
- Das lamaische Pantheon, 1286.
- Das Leben des Buddha von Asva-ghosa, 1954.
- De l'influence du Bouddhisme sur la Figuration des enfers médiévaux, 650.
- De mystiek van Tibet, 743.
- Deities of Nepal and Tibet; sacred art at the Musée Guimet, 1197(a).
- Depung—the monastic university of Tibet, 120.
- Der Buddhismus in Indien und im Fernen Osten. Schicksale und Lebensformen einer Erlösungsreligion, 671(a).
- Der Buddhismus Indiens; Anhang: Die religion Tibets, 1398.
- Der Buddhismus u. seine Geschichte in Indien, 959.
- Der frühlingsmythus der Kesarsage. Ein Beitrag zur Kenntniss der vorbuddhistischen Religion Tibets, 553.
- Der Lamaismus, 714.
- Der Lamaismus: Die buddhist, 1597.
- Der Lamaismus und seine Bestrebungen zur Hebung seines intellektuellen und moralischen Niveaus, 726.
- Der lamaistische Donnerkeil (Rdorje) und die Doppelaxt der Mittelmeerkultur, 889(g).
- Der lamaistische Ritualdolch (Phurbu) und die altvorderasiatischen 'Nagelmenschen', 889(c).
- Der wintermythus der Kesarsage. Ein Beitrag zur Kenntniss der vorbuddhistischen religion Ladakhs, 561.
- Des premiers essais de prédiction du Buddha Çākyamuni, 480.
- Des Vyākaraṇas et de leur place dans la littérature des bouddhistes, 485.
- Devil-driving procession of the Tibetan Buddhists as seen at Darjeeling and a few thoughts suggested by it, 1195(a).
- Die Berechnung der Lehre. Eine Streitschrift zur Berichtigung der buddhistischen Chronologie, Verlassen im Jahre 1591 von Suracamatibhadra, 1567.

- Die Dhyānibuddhas u. Mānushi-
buddhas im Lichte der Vorbud-
dhistischen Religion Ladakhs, 607.
Die geschichte der Dalailamas, 1596.
Die Gloriolen in der lamaistischen
Malerei, 889(a).
Die Lamaische Hierarchie und
Kirche, 983.
Die Lamas von Choni, 1083.
Die Lebensbeschreibung von Padma-
Sambhava dem Begründer des
Lamaismus, 1573.
Die Religion des Buddha und ihre
Entstehung, 982.
Die Religionen Tibets. Bon und
Lamaismus in ihrer Geschicht-
lichen Entwicklung, 861(f).
Die religiösen Zeremonien der tibe-
tanischen Lamas u. buddhistischen
Mönche, 755.
Die tibetische Bön-religion, 1226.
Die Vorbuddhistische religion Tibets,
611.
Discours sur l'origine de la hierarchie
lamique, 1410.
Doctrine of the Prajñāpāramitā as
exposed in the *Abhisamayālaṃ-
kāra* of Maitreya, 1250.
Documenta Buddhismi Sino-Tibetici,
1122.
Drift of Buddhism from India to
the Mongols and Thibet, 619.
Du Bouddhisme, 379.
Du Thibet. Divers objets du culte
bouddhique, 396.

E

- Ecclesiastical tribute, 1293.
Eighty-five siddhas, 1580(f).
Ein Besuch im buddhist Kloster
Hemis (Ladāk), 608.
Ein lamaistisches Vajra-maṇḍala,
1488.
Einige Nachrichten über den Dalai-
Lama in Lhasa, 1234.
Entretien du Buddha et de Brahma
sur l'origine des choses, 493.
Essai sur la legende du Buddha,
1604.
Essays on the languages, literature
and religion of Nepal and Tibet;
on the geography, ethnology and
commerce of those countries, 852.

F

- Five universals of Tibetan religion,
448.
Foundations of Tibetan mysticism,
686(b).

G

- Gakusō Tson-ka-pa, sono Den to
Chosaku-mokuroku (Tson-kha-pa,
the greatest Pandit in Tibetan
Buddhism; his biography with the
list of his complete works), 1224(c).
Geschichte des Buddhismus in der
Mongolei. (From the Tibetan of
Jigs-med nam-mka), 896.
Geschichte des Buddhismus in Indien
und Tibet von Bu-ston Rinchen-
grub-pa (Budon Rin poche), 1585.
Geschichte des Lamaismus, 1287.
Geshiedenis van het Buddhisme in
India, 958.
Glimpses of the Lama religion in
Tibet and Mongolia, 203.
Gods of Northern Buddhism. Their
history, iconography and pro-
gressive evolution through the
Northern Buddhist countries, 655.
Gospel of Luke in Lepcha, 1137.
gZer-Myig. A book of the Tibetan
Bonpos, 604.

H

- Het Lamaisme van Tibet, 1649.
Hierarchy of the Dalai Lama, 1406-
1745, 314(i).
Hinduism and Buddhism, 451.
Histoire du Bouddha Cakyamouni,
455.
History of Buddhism in India and
Tibet, 322.
History of Hindu-Tibetan Bud-
dhism, compiled by Liu Li-ch'ien
(Lieou Li-ts'ien, Yin Tsang fo-
kiao che), 1113(c).
History of Imperial Patronage of
Buddhism in Tibet, 1528(e).
Holy Himalaya—The religion, tra-
ditions and scenery of a Hima-
layan Province, 1246(a).
Holy mountain. Being the story of
a pilgrimage to Lake Mānasa and
of initiation on Mount Kailāsa in
Tibet, 746.

How the temporal power of the Dalai Lama was founded? 1189.

I

Il P. Ippolito Desideri evi suoi Viaggi nell' India e nel Tibet (1712-1727).—Il Buddhismo nel Tibet secondo la relazione inedita del viaggio del P. Ippolito Desideri, 1374.

Illustrations of the Lamaist system in Tibet drawn from Chinese sources, 1171.

Illustrations of the literature and religion of the Buddhists, 841.

Image of Buddha in the Jo-wo-Khang temple at Lhasa, 1904.

Indian Pundits in the Land of the Snow, 304.

Indian Pundits in Tibet, 305.

Initiations and initiates in Tibet, 340.

Initiations Lamaïques des théories—des pratiques des Hommes, 333.

Introduction à l'Histoire du Buddhisme Indien, 188.

Introduction du Buddhisme au Kashmir, 472.

Introduction of Buddhism into Tibet, 1477(b).

Introduction to Lamaism, 1185(e).

Introduction to Mahāyāna Buddhism, 1173.

K

Kamba, 1296.

Kantyu-ha no Fūkaku (The Bkahr-gyud school and its characteristics in Tibetan Buddhism), 2009(b).

K'ien long yu yi yen Kiao King (a Tibetan prayer translated into Chinese and Manchu by the Emperor Kien Long), 355.

Kah Bab Dun dan, the book of the seven mystic revelations, containing the history of the state of Buddhism in India from the tenth century A.D. to the reign of Akbar, compiled by Lama Tārānāth Kun Dgaḥ Sñiñ-Po . . . , 314(b).

Kahgyudpa: The white sect of Lamaism, 1103.

Kahoku Godaisan no Daizōkyō (Tibetan Buddhist Canons

preserved at the Wu-t'ai-shan Temple in Northern China), 1498(d).

Kumbum Dschamba Ling. Das Kloster der hunderttausend Bilder Maitreyas. Ein Ausschnitt aus Leben und Lehre des heutigen Lamaismus, 527.

L

La légende de Rāhu chez les Bramanes et les Buddhistes, 471.

La mission du Thibet de 1855 à 1870, comprenant l'exposé des affaires religieuses, et divers documents sur ce pays, accompagnée d'une carte du Thibet. D'après les lettres de M. l'abbé Desgodins, missionnaire apostolique, 387.

La religione Bon tibetana, 857.

La vie du Buddha d'après les Textes de l'Inde Ancienne, 831.

L'histoire des idées Theosophiques dans l'Inde: La theosophie Bouddhique, 1277.

L'influence politique du Lamasime, 1362.

L'ouverture du Thibet: le bouddhisme et le lamaïsme, 1363.

Ladakhi Bonpa hymnal, 558.

Lama, 1141.

Lāma praying-wheel, 357, 701.

Lamaic hierarchy of Tibet, 306.

Lamaism as a demonolatry, 1880.

Lamaism in Tibet, 2013.

Lamaism in Western Tibet, 457.

Lamaismus u. Katholizismus, 1935.

Lamaist ceremony called *making of mani pills*, 1445.

Lamaizm v Tibete, jego istorija, učenije i učreždenija, 1349.

Lamasery life, 1237.

Le Bouddha et sa religion, 1651.

Le Bouddha et seize Grands Arhats suite de sept bannières de la province de Khams au Tibet, 1469.

Le Bouddhisme au Tibet, 1566.

Le bouddhisme extra-indien: Tibet et Indo-Chine, 498.

Le Concile de Lhasa. Une controverse sur le quiétisme entre bouddhistes de l'Inde et de la Chine au VIII siècle de l'ère Chrétienne, 368(c).

Le Dalai-Lama, 826.

Le Dharmacakrapravartanam. Les quatre vérités, 490.

Le Lama aux cinq Sages, 339.

Le lamaïsme. Petit essai d'explication et de compréhension, 1185(b).

Le Mystère de la Mort dans les religions d'Asie, 1086(a).

Le Tibet, le Bouddhisme et la langue tibétaine—Discours d'ouverture du cours de tibétain, 468.

Le Tibet: le pays, le peuple, la religion, 503.

Le Tibet et le champ géographique du Bouddhisme, 112.

Lepcha hymn-book, 1139.

Les chants mystiques de Kāṇha et de Saraha; les dohākoṣa (en apabhraṃśa avec les versions tibétaines) et les caryā (en vieux bengali), 1620.

Les Doctrines Secrètes tibétaines, 1120(a).

Les enseignements secrets dans les sectes bouddhistes tibétaines. La vue pénétrante, 345.

Les Lamas et les couvents bouddhiques, 1629.

Les Lamaseries du Thibet, 406.

Les lamassouverains du Tibet (Dalai-Lama et Panchen-Lama), 1185(c).

Les Mo-So: Ethnographie des Mo-So, leurs religions, leur langue et leur écriture . . . , 42.

Les scènes figurées de la vie du Bouddha dans l'iconographie Tibétaine, 734.

Lhasa u. der Dalai-Lama, 1940.

Life among the Lamas of Choni, 1434.

Life of the Buddha and the early history of his order, derived from Tibetan works in Bkhaḥ-gyur and Bstan-gyur, 1465.

Life of Jesus Christ in Lepcha, 961.

Life of Milaraspa in a picture series, 1580(b).

Life of Nāgārjuna (from the Pag-Sam-Jon-Zang), 1301(b).

Life of Nagarjuna, 1893.

Living Buddha smiles, 159.

Lo-gun-gé-bo (Odin iz religioznych obyčaeŭ v Lhasě), 418.

M

Maitreya le Consolateur, 1097(a).

Meaning of the Om-Mani-Padme-Hum formula, 598.

Metaphysik des Buddhismus, 973.

Milarepa, 47, 89, 861(b), 460(c).

Mōko no Hui-zō (Lamaist terrible deities), 1224(d).

Mōko Ramakyō-shi. (Hjigs-med-nam-mkhaḥ's 'History of Mongolian Lamaism'), 756(a), 1196.

Monasteries of Tibet, 315.

Monastic university of Tashi-lhunpo in Tibet, 314(p).

Mongolia and Central Tibet, 1455.

Monguors of the Kansu-Tibetan Border. Their religious life, 1588(b).

Monks and monasteries in Tibet, 1511.

Monographie du travailleur bouddhiste, 399.

Mūan Bpō ceremony or the sacrifice to heaven as practised by the Na-khi, 1948, 1438(a).

Mystic tales of Lama Taranatha, 437.

Mystiques et Magiciens du Thibet, 332.

Mythen und Mysterien, Magie und Religion der Tibeter, 830(d).

Mythologie des Buddhismus in Tibet u. der Mongolei, 713.

Mythologie du Bouddhisme au Tibet et en Mongolie, 713(a).

Mythologie du Lamaïsme, 739.

N

Na-khi nāga cult and related ceremonies, 1438(b).

New Dalai Lama is found, 1626(a).

Nichtanimistisches und Animistisches im Lamaismus, 889(k).

Nirvāṇa according to Tibetan tradition, 1252.

Northern tirtha, 1239.

Note on the origin of the kāla-chakra and adi-Buddha systems, 259.

Note on Vajrapāṇi Indra, 991.

Note on the white satin embroidered scarfs of the Tibetan priests, 1114(a).

Note sur le Bouddhisme au Tibet, 394.

- Notes de mythologie bouddhique, 2.
 Les Rgyud sum-pa manuscrits de
 Touen-houang, 1024(a).
 Notes from the Far East. The six-
 syllable prayer of the Tibetans, 33.
 Notes on a Buddhist monastery at
 Bhot Bāgān (Howrah), 196.
 Notes on the *Divyāvadāna*, 63.
 Notes sur l'état actuel des lamaseries
 au Thibet, 398.
 Notes sur le Lamaïsme, 423.
 Notes sur les Anciennes chrétientés
 Nestoriennes de l'Asie Centrale,
 145.
 Notes sur l'évangélisation du Thibet
 avant le XIX^es. siècle, 1076.
 Notice sur la langue, la littérature et
 la religion des Bouddhistes du
 Népal et du Bhot ou Tubet, 837.
 Notice sur la prière bouddhique *om*
maṇi padmē hōum, 644.
 Notices on the different systems of
 Buddhism, extracted from the
 Tibetan authorities, 269.

O

- Obzor sobranie Predmelov lamajies-
 kago Kul'ta Kre. E. E. Uchtoms-
 kogo, 713(b).
 Om maṇi Padmé Hōum, 927, 990.
 On some Tibetan names of the
 Buddha, 1588.
 On the bodily proportions of Bud-
 dhist idols in Tibet, 1561.
 On the Kala Cakra system of Bud-
 dhism which originated in Orissa,
 321.
 Oracles and demons of Tibet: the
 cult and iconography of the
 Tibetan protective deities, 1232(d).
 Order of the Buddhist high mass
 (pontifical) as celebrated in the
 great SO monastery of the Dalai
 Lama's Palace at Lhasa, Tibet,
 and at the monasteries of
 Himis and Leh in Ladak, Tibet.
 Adapted for use in the Buddhist
 Churches in America, 1912, 1178.
 Origin and evolution of religion, 868.
 Origin of mankind (according to
 Lamaist Mythology), 319.
 Origin of mankind compiled from
 the legendary history of Tibet,
 311(f).
 Origins of Bon, 1126.

P

- Padmasambhava und Verwandtes,
 719.
 Parmi les Mystiques et les Magiciens
 du Tibet, 338.
 Peaks and Lamas, 1284.
 Penthouse of the gods. A pilgrim-
 age into the heart of Tibet and
 the sacred city of Lhasa, 113.
 Philosophical Buddhism in Tibet,
 1510.
 Portrait of the Dalai Lama, 105.
 Prayer-wheels, 287.
 Preaching of the Gospel in Tibet,
 1295.
 Prescriptions de la Discipline boud-
 dhique (Dul-va = Vinaya) rela-
 tives aux coupables: 1° du meurtre
 d'un Arhat; 2° de divisions semées
 parmi les prêtres; 3° de l'effusion
 volontaire du sang d'un Tathā-
 gata; 4° de l'un des quatre grands
 crimes, 479.
 Principal deities of the Bon Panthe-
 on, 309(a).
 Probe aus dem tibetischen Legen-
 denbuch die hunderttausend
 Gesänge des Milaraspa, 919.

Q

- Quellen zur Geschichte der tibetis-
 chen Bon Religion, 861.

R

- Rama-kyō Kyōri no Gaiyō. Mui-
 kokū no Shosetsu ni yorite (An
 outline of Lamaistic doctrine. A
 study depending upon the source
 from Jig-me-nam-kha), 1224(f).
 Realm of the Gods, 458.
 Relacam geral do estado da Christ-
 andade de Ethiopia, Reduçam dos
 Scismaticos; Entrada, and Rece-
 bimēto do Patriarcha Dom, 22.
 Religion of Tibet, 104. A study
 in Lamaism, 104, 453.
 Religion of Tibet and the true reli-
 gion (for English-speaking
 Tibetans), 618.
 Religionsgeschichtten aus Sven
 Hedin's 'Trans-himalaja', 1282.
 Representacion hecha por el R.
 Procurador General de Religiosos

Menores Capuchinos, a la Sagrada congregacion de Propoganda Fide, sobre el estado actual de la Mis-sion del Thibet, 1328.

Rgya Tch'er Rol Pa, ou Developpement des Jeux, contenant l' Histoire du Boudhha çakya-Mouni, traduit sur la version tibétaine du Bkah Hgyour..., 542.

Rñin-ma-pa: the early form of Lamaism, 1101.

S

Sakya sect of Lamaism, 1100.

Sanbussei Bukkyō-shi ni kansuru Chibetto-bun no Ichi-shiryō (A Tibetan source on the history of Buddhism in Śrīvijaya), 1628(c).

Sangs. rgyas, dang. nyan. thos. mchog. zung. gi. ring bsrel. rin. po. che. Bod. gzhung. nas. gdan. zhu. bskyangs. pa (The visit of the sacred relics of the Buddha and the two chief disciples to Tibet at the invitation of the government), 1521.

Sanskrit manual of Tsonkhapist Worship, 1256.

Secret oral teachings in Tibetan Buddhist sects, 348.

Sher-Phyin or exposition of the metaphysical dogmas current among the Buddhists of the Mahāyāna School, expounded in a series of dialogues: a Tibetan translation of the *Śata-Sahasrikā Prajñāpāramitā*, 658.

Sketch of Buddhist ontology and the doctrine of Nirvāṇa of the Mahāyāna School of Tibet—explanation of the Bhava Chakra, 311(e).

Société des missions étrangères—Histoire de la Mission du Thibet, 1077.

Studies in the *Divyāvadāna*, 1927.

Study of the twenty aspects of Śūnyatā—based on Haribhadra's *Abhisamayālaṃkāraloka* and the *Pañcaviṃśatisahasrikā*, 1251.

Study of Tibetan Buddhism: exposition of Vipāśyanā in Tsonkha-pa's Lam-rim chen-mo, 1224(e).

Sublime science of the Great Vehicle

to salvation. Being a manual of Buddhist monism by Aryasangha. 1246(b).

T

Tārānāth's History of Buddhism in India, 661, 1555.

Tausend Buddhanamen des Bhadrakalpa, 1956.

Teorija poznanija i logika po učeniju pozdnějičsh buddhistiv. Čast. 2—Učenie O Vosprijatti i Umozaključenii, 1541.

Term Śūnyatā and its different interpretations, 1253.

Tibbata meñ bouddhadharma. [History of Buddhism in Tibet], 1528(a).

Tibet, its Religion and its Art, 877(a), 1640.

Tibet's Great Yogī, Milarepa. A biography from the Tibetan; being the Jetsün-Kahbum, or biographical history of Jetsün-Milarepa, 352.

Tibetan Book of the Dead, or the after-death experiences on the Bardo Plane, 460(a).

Tibetan Book of the Great Liberation, or the method of realizing Nirvāṇa through knowing the mind. Preceded by an epitome of Padma-Sambhava's biography and followed by Guru Phadampa Sangay's teachings, 460(f).

Tibetan Buddhism, 1563, 1169: problem in the making of, 756(d).

Tibetan Buddhism and Catholicity, 293.

Tibetan Buddhistology; the basic original texts of historical Lamaism: Bhāvanākrama by Kamalaśīla, 2007(c).

Tibetan hymn book, 1129.

Tibetan prayer-wheels. Tibetan drumpet, 2002.

Tibetan religious art; Lamaism, 677.

Tibetan religious festivals, 664.

Tibetan tantra, 1149.

Tibetan yoga, 176.

Tibetan yoga and secret doctrines, 460(b).

U

Über den besuch eines lamaistischen Klosters in Tibet (gekürzt), 1934.

Über den Buddhismus in Tibet, 1085.

Über ein tibetisches Geschichtswerk der Bonpo, 1569.

Un catéchisme bouddhique ouïgour en écriture tibétaine, 1316.

Un traité de magie bouddhique, 1027.

V

Vijñaptimātra school of Buddhism in Tibet, 1224(h).

Vom omi bis Bhamo, wanderungen an den Grenzen von China, Tibet und Birma, 741.

W

Western Tibet and the British Borderland; the sacred country of Hindus and Buddhists; with an account of the government, reli-

gion and customs of its peoples, 1628.

Where a Lama leads the way, 1132.

With mystics and magicians in Tibet, 341.

Z

Zu den Fragmenten buddhistischer Autoren in Haribhadras Anekāntajayapatākā, 622(b).

Zur buddhistischen Litteratur der Uiguren, 1061.

Zur Lehre vom Bewusstsein (Vijñānavāda) bei den späteren Buddhisten. Unter besonderer Berücksichtigung des Lankāvatārasūtra, 1992.

Zur Religion der Tujen des Sininggebietes (Kukunor), 1588(c).

Zwei Darstellungen des Padma Sambhava, 1009.

Zwei Legenden des Milaraspa, 1058.